

Research publications (1985-2022)

1. "Angular Dependence of Magnetoresistance Fluctuations in Submicron n⁺GaAs Wires"
P.C. Main, L. Eaves, **R.P. Taylor**, G.P. Whittington, S. Thoms, S.P. Beaumont and C.D.W. Wilkinson
Proceedings of The 18th International Conference on the Physics of Semiconductors, Stockholm, 1986
Published: World Scientific Press 1591 (1986) (REFEREED)
2. "Universal Conductance Fluctuations in the Magnetoresistance of Submicron n⁺GaAs Wires"
G.P. Whittington, **R.P. Taylor**, P.C. Main, L. Eaves, S. Thoms, S.P. Beaumont, C.D.W. Wilkinson, C.R. Stanley and J. Frost
Proceedings of "The 2nd International Conference on Superlattices, Microstructures and Microdevices", Goteburg, Sweden, 1986
Published: *Superlattices and Microstructures* **2** 381 (1986) (REFEREED)
3. "Aperiodic Quantum Magnetoresistance Oscillations in Submicron n⁺GaAs Wires"
R.P. Taylor, L. Eaves, P.C. Main, G.P. Whittington, S. Thoms, S.P. Beaumont and C.D.W. Wilkinson
Proceedings of The Application of High Magnetic Fields in Semiconductor Physics, Wurzburg, West Germany, 1986
Published: Springer, Solid State Sciences **71** 328 (1987) (REFEREED)
4. "Fourier Analysis of Universal Conductance Fluctuations in the Magnetoresistance of Submicron-size n⁺GaAs Wires"
M.L. Leadbeater, **R.P. Taylor**, P.C. Main, L. Eaves, S.P. Beaumont, I. McIntyre, S. Thoms and C.D.W. Wilkinson
Proceedings of The International Symposium on GaAs and Related Compounds, Heraklion, Greece, 1987
Published: The Institute of Physics Conference Series **91** 573 (1988) (REFEREED)
5. "Universal Conductance Fluctuations in the Magnetoresistance of Submicron-size n⁺GaAs Wires and Laterally Confined n⁻GaAs/(AlGa)As Heterostructures"
R.P. Taylor, M.L. Leadbeater, G.P. Whittington, P.C. Main, L. Eaves, S.P. Beaumont, I. McIntyre, S. Thoms and C.D.W. Wilkinson
Proceedings of the "7th International Conference on Electronic Properties of Two Dimensional Systems", Santa Fe, USA, 1987
Published: *Surface Science* **196** 52 (1988) (REFEREED)
6. "Electron Beam Lithography and Dry Etching Techniques for the Fabrication of Quantum Wires in GaAs and (AlGa)As Epilayer Systems"
S.P. Beaumont, C.D.W. Wilkinson, S. Thoms, R. Cheung, I. McIntyre, **R.P. Taylor**, M.L. Leadbeater, P.C. Main and L. Eaves
Proceedings of The International Conference on the Physics and Technology of Submicron Structures, Mauterndorf, Austria, 1988
Published: Springer, Solid State Sciences **14** (1988) (REFEREED)
7. "Electron Heating in a Submicron-size n⁺GaAs Wire"
R.P. Taylor, P.C. Main, L. Eaves, S.P. Beaumont, S. Thoms and C.D.W. Wilkinson
Proceedings of "The 3rd International Conference on Superlattices, Microstructures and Microdevices", Trieste, Italy, 1988
Published: *Superlattices and Microstructures* **5** 575 (1988) (REFEREED)
8. "Aperiodic Conductance Fluctuations as a Probe of Changes in the Microscopic Scattering Configuration in n⁺GaAs:Si Wires"
R.P. Taylor, P.C. Main, L. Eaves, S.P. Beaumont, S. Thoms and C.D.W. Wilkinson
Proceedings of The 19th International Conference on Physics of Semiconductors, Warsaw, Poland, 1988
Published: The Institute of Physics, Polish Academy of Sciences **1** 83 (1988) (NON-REFEREED)

9. "Electrical Properties of Low Dimensional Semiconductors"
R.P. Taylor
Published: *PhD Thesis, Nottingham University* (1989) (REFEREED)

10. "Magnetoresistance Effects in Laterally Confined n^-GaAs/(AlGa)As Heterostructures"
R.P. Taylor, P.C. Main, L. Eaves, S. Thoms, I. McIntyre, S.P. Beaumont, and C.D.W. Wilkinson
Published: *Journal of Physics: Condensed Matter* **1** 10413 (1989) (REFEREED)

11. "Conduction in n^+GaAs Wires"
P.C. Main, **R.P. Taylor**, L. Eaves, S. Thoms, S.P. Beaumont and C.D.W. Wilkinson
Proceedings of "The Physics and Engineering of One and Zero Dimensional Semiconductors", NATO Summer School, Cadiz, Spain 1989
Published: *NATO ASI Series B: Physics* **214** 51 (1990) (REFEREED)

12. "Electronic Properties of Laterally Confined n^-GaAs/(AlGa)As Heterostructures"
R.P. Taylor, P.C. Main, L. Eaves, S. Thoms, I. McIntyre, S.P. Beaumont and C.D.W. Wilkinson
Proceedings of "The 4th International Conference on Modulated Semiconductor Structures", Ann Arbor, USA, 1989
Published: *Surface Science* **228** 269 (1990) (REFEREED)

13. "Magnetoresistance Oscillations in a 2DEG Subject to a One Dimensional Periodic Potential"
M. Davison, E.S. Alves, M. Dellow, P.H. Beton, **R.P. Taylor**, P.C. Main, L. Eaves, S.P. Beaumont, C.D.W. Wilkinson, J. Portal and L. Curry
Proceedings of The 20th International Conference on the Physics of Semiconductors, Thessaloniki, Greece, 1990
Published: World Scientific Press **3** 2423 (1990) (NON-REFEREED)

14. "Mesoscopic Charge Mapping by Conductance Fluctuations"
M. Davison, **R.P. Taylor**, P.C. Main, P.H. Beton, S.P. Beaumont and C.D.W. Wilkinson
Proceedings of "The 19th International Conference on Low Temperature Physics", Brighton, UK, 1990
Published: *Physica B* **165** and **166** 865 (1990) (REFEREED)

15. "Temperature and Angular Dependence of Magnetoresistance Oscillations in a 2DEG Subjected to a Periodic Potential"
M. Davison, **R.P. Taylor**, E.S. Alves, P.H. Beton, M. Dellow, P.C. Main, L. Eaves, M. Henini, O.H. Hughes, S.P. Beaumont and C.D.W. Wilkinson
Proceedings of "The 19th International Conference on Low Temperature Physics", Brighton, UK, 1990
Published: *Physica B* **165** and **166** 867 (1990) (REFEREED)

16. "Temperature Dependence of Magnetoresistance Oscillations in a 2DEG Subjected to a Periodic Potential"
P.H. Beton, P.C. Main, M. Davison, M. Dellow, **R.P. Taylor**, E.L. Alves, L. Eaves, S.P. Beaumont and C.D.W. Wilkinson
Published: *Physical Review B* **42** 9689 (1990) (REFEREED)

17. "Collimation Effects in Quantum Point Contacts"
R.P. Taylor, A.S. Sachrajda, J.A. Adams, P.T. Coleridge and P. Zawadzki
Proceedings of "The International Symposium on Analogies in Optics and Micro-electronics", Eindhoven, The Netherlands, 1991
Published: *Physica B* **175** 243 (1991) (REFEREED)

18. "Experimental Investigation of Quantum Point Contacts Separated by Open and Enclosed Regions"

R.P.Taylor, A.S.Sachrajda, J.A.Adams, C.R.Leavens, P.Zawadzki and P.Coleridge
Proceedings of "The International Symposium on Nanostructures and Mesoscopic
Systems", Santa Fe, USA, 1991
Published: *Superlattices and Microstructures* **11** 219 (1992) (REFEREED)

19. "Classical and Quantum Mechanical Transmission Effects in Submicron-Size Dots"
R.P. Taylor, A.S. Sachrajda, J.A. Adams, P. Zawadzki, P.T. Coleridge and M. Davies
Proceedings of "The 9th International Conference on Electronic Properties of
Two Dimensional Systems", Nara, Japan, 1991
Published: *Surface Science* **263** 247 (1992) (REFEREED)
20. "Low Frequency Noise in Multiple Quantum Point Contact Systems"
R.P. Taylor, S. Fortin, A.S. Sachrajda, J.A. Adams, M. Davies, M. Fallahi,
P.T. Coleridge and P. Zawadzki
Published: *Physical Review B* **45** 9149 (1992) (REFEREED)
21. "Non-linear Behaviour in the Magneto-transport through Continuous-gate and
Split-gate Nanostructures"
R.P. Taylor, S. Fortin, A.S. Sachrajda, J.A. Adams, P. Zawadzki, P.T. Coleridge,
M. Davies and P. Marshall
Proceedings of "The 6th Canadian Semiconductor Technology Conference", Ottawa, 1992
Published: *Canadian Journal of Physics* **70** 1001 (1992) (REFEREED)
22. "Quantum Interference Effects as a Characterisation Tool to Probe the Sidewalls
of Submicron-size n⁺GaAs Channels"
R.P. Taylor, P.C. Main, L. Eaves, S. Thoms, S.P. Beaumont and C.D.W. Wilkinson
Proceedings of "The 6th Canadian Semiconductor Technology Conference", Ottawa, 1992
Published: *Canadian Journal of Physics* **70** 979 (1992) (REFEREED)
23. "Discrete Electron Effects in Lateral Quantum Islands"
A.S. Sachrajda, **R.P. Taylor**, C. Dharma-Wardana, J.A. Adams, P. Zawadzki, P.T. Coleridge
and M. Davies
Proceedings of "The 6th Canadian Semiconductor Technology Conference", Ottawa, 1992
Published: *Canadian Journal of Physics* **70** 1148 (1992) (REFEREED)
24. "The Effect of Coulomb Interactions on the Magnetoresistance Oscillations of Quantum Dots"
C. Dharma-Wardana, **R.P. Taylor** and A.S. Sachrajda
Published: *Solid State Communications* **84** 631 (1992) (REFEREED)
25. "Aharonov-Bohm Oscillations in the Coulomb Blockade Regime"
R.P. Taylor, A.S. Sachrajda, P. Zawadzki, P.T. Coleridge and J.A. Adams
Published: *Physical Review Letters* **69** 1989 (1992) (REFEREED)
26. "Magneto-conductance Oscillations in Quantum Dots"
C. Dharma-Wardana, A.S. Sachrajda and **R.P. Taylor**
American Physical Society Bulletin **38** 699 (1993) (UNREFEREED, EXTENDED ABSTRACT)
27. "Transport Properties in a Quantum Dot in Magnetic Fields"
K. Ishibashi, J.P. Bird, **R.P. Taylor**, M. Stopa, T. Sugano and Y. Aoyagi
Published: *Proceedings of Alloy Semiconductor Physics and Electronics (Japan)*
II-9 69 (1993) (REFEREED)
28. "Demonstration of Quantum Dots and Quantum Wires with Removable Impurities"
Y. Feng, A.S. Sachrajda, **R.P. Taylor**, J.A. Adams, M. Davies, P. Zawadzki, P.T. Coleridge,
D. Landheer, P.A. Marshall and R. Barber
Published: *Applied Physics Letters* **63** 1666 (1993) (REFEREED)
29. "Spin-controlled Resonances in the Magneto-transport in Quantum Dots"
A.S. Sachrajda, **R.P. Taylor**, C. Dharma-Wardana, P. Zawadzki, J.A. Adams and P.T. Coleridge

Published: *Physical Review B Rapid Communications* **47** 6811 (1993) (REFEREED)

30. "Fabrication of Nanostructures with Multi-level Architecture"
R.P. Taylor, J.A. Adams, M. Davies, P.A. Marshall and R. Barber
Published: *Journal of Vacuum Science and Technology B* **11** 628 (1993) (REFEREED)
31. "Zero and Low Magnetic Field Characterisation of AlGaAs/GaAs Lateral Dots"
R.P. Taylor, A.S. Sachrajda, J.A. Adams, P.T. Coleridge and P. Zawadzki
Published: *Physical Review B* **47** 4458 (1993) (REFEREED)
32. "The Fabrication of Nanostructures with Addressable Submicron Schottky Gate and Ohmic Contacts"
Y. Feng, M. Davies, A.S. Sachrajda, **R.P. Taylor**, J.A. Adams, P. Zawadzki, P.T. Coleridge, P. Marshall and R. Barber
Published: *Proceedings of "The International Semiconductor Device Research Symposium"*, Charlottesville, USA, 1993 (REFEREED)
33. "Investigation of Ohmic Contacts to AlGaAs/GaAs Heterojunctions"
P.T. Coleridge, M. Davies, Y. Feng, **R.P. Taylor**, J. McCaffrey and P.A. Marshall
Proceedings of The American Physical Society Annual Meeting, Pittsburgh, U.S.A., 1994
American Physical Society Bulletin **39** 251 (1994) (UNREFEREED, EXTENDED ABSTRACT)
34. "Gate-induced Periodicities in High Quality Electron Systems in the Extreme Quantum Limit"
C.J. Mellor, **R.P. Taylor**, R.G. Clark, A.G. Davies, S.A. Brown, E.E. Mitchell, J.J. Harris and C.T. Foxon
Proceedings of "The American Physical Society Annual Meeting", Pittsburgh, U.S.A., 1994,
American Physical Society Bulletin **39** 351 (1994) (UNREFEREED, EXTENDED ABSTRACT)
35. "Artificial Impurities in Quantum Wires: From Classical to Quantum Behaviour"
G. Kirczenow, A.S. Sachrajda, Y. Feng, **R.P. Taylor**, L. Henning, J. Wang, P. Zawadzki and P.T. Coleridge
Proceedings of "The American Physical Society Annual Meeting", Pittsburgh, U.S.A., 1994
American Physical Society Bulletin **39** 791 (1994) (UNREFEREED, EXTENDED ABSTRACT)
36. "Aharonov-Bohm Oscillations from Inter-edge State Scattering in Quantum Dots"
C. Barnes, **R.P. Taylor**, A.S. Sachrajda and T. Sugano
Proceedings of "The American Physical Society Annual Meeting", Pittsburgh, U.S.A., 1994
American Physical Society Bulletin **39** 71 (1994) (UNREFEREED, EXTENDED ABSTRACT)
37. "Density of Electrons in Lateral Quantum Dots by Semiclassical Analysis"
R.P. Taylor, A.S. Sachrajda, P.J. Kelly and D. Freedman
Published: *Solid State Communications* **87** 579 (1994) (REFEREED)
38. "A Patterned Gate Architecture to Study High Quality AlGaAs/GaAs Heterostructures in the Extreme Quantum Limit"
C.J. Mellor, **R.P. Taylor**, R.G. Clark, A.G. Davies, S.A. Brown, E.E. Mitchell, J.J. Harris and C.T. Foxon
Published: *Semiconductor Science and Technology* **9** 1 (1994) (REFEREED)
39. "Australian National Pulsed Magnet Laboratory for Condensed Matter Physics Research"
R.G. Clark, R.P. Starrett, R. Newbury, A.V. Skougarevsky, S.A. Brown, A.G. Davies, R.B. Dunford, D. Olatona, L.D. Macks, E.E. Mitchell and **R.P. Taylor**
Proceedings of "The 4th International Symposium on Semiconductor Physics: Frontiers in High Magnetic Fields", Tokyo, 1993
Published: *Physica B* **201** 565 (1994) (REFEREED)
40. "The Extreme Quantum Regime of 2D Electron and Hole Systems"

- R.G. Clark, A.G. Davies, S.A. Brown, R.B. Dunford, P.E. Simmonds, A.C. Lindsay, R. Newbury, R.P. Starret, A.V. Skougarevsky, E.E. Mitchell, **R.P. Taylor**, C.J. Mellor B.L. Gallagher, C.T. Foxon and J.J. Harris
 Proceedings of "The 4th International Symposium on Semiconductor Physics: Frontiers in High Magnetic Fields", Tokyo, 1993
 Published: *Physica B* **201** 301 (1994) (REFEREED)
41. "Electron-Electron Interactions and the Magnetoconductance of Submicron Quantum Dots"
 A.S. Sachrajda, **R.P. Taylor**, C. Dharma-wardana, J.A. Adams, P. Zawadzki and P.T. Coleridge, Invited Contribution
 Proceedings of "The 10th International Conference on Electronic Properties of Two Dimensional Systems", Newport, U.S.A., 1993
 Published: *Surface Science* **305** 527 (1994) (REFEREED)
42. "Anti-Collimation of Ballistic Electrons by a Potential Barrier"
 P.T. Coleridge, **R.P. Taylor**, A.S. Sachrajda and J.A. Adams
 Proceedings of "The 10th International Conference on Electronic Properties of Two Dimensional Systems", Newport, USA, 1993
 Published: *Surface Science* **305** 448 (1994) (REFEREED)
43. "Fabrication and Characterisation of Multi-level Lateral Nano-devices"
R.P. Taylor, Y. Feng, A.S. Sachrajda, J.A. Adams and M. Davies
 Proceedings of "The 10th International Conference on Electronic Properties of Two Dimensional Systems", Newport, USA, 1993
 Published: *Surface Science* **305** 648 (1994) (REFEREED)
44. "Artificial Impurities in Quantum Wires: From Classical to Quantum Behaviour"
 G. Kirczenow, A.S. Sachrajda, Y. Feng, **R.P. Taylor**, L. Henning, J. Wang, P. Zawadski and P.T. Coleridge
 Published: *Physical Review Letters* **72** 2069 (1994) (REFEREED)
45. "Magneto-Coulomb Oscillations"
 J.P. Bird, K. Ishibashi, M. Stopa, **R.P. Taylor**, Y. Aoyagi and T. Sugano
 Published: *Physical Review B Rapid Communications* **49** 11488 (1994) (REFEREED)
46. "Magnetoresistance of a Nanoscale Antidot"
 A.S. Sachrajda, Y. Feng, **R.P. Taylor**, G. Kirczenow, L. Henning, J. Wang, P. Zawadski and P.T. Coleridge
 Published: *Physical Review B* **50** 10856 (1994) (REFEREED)
47. "The Role of Surface Gate Technology for AlGaAs/GaAs Nanostructures"
R.P. Taylor
 Published: *Journal of Nanotechnology* **5** 183 (1994) (REFEREED)
48. "Physical and Electrical Characterisation of Ohmic Contacts to AlGaAs/GaAs Heterostructures"
R.P. Taylor, P.T. Coleridge, Y. Feng, M. Davies, J. McCaffrey and P.A. Marshall
 Published: *Journal of Applied Physics* **76** 7966 (1994) (REFEREED)
49. "Demonstration of Intricate Gate, Ohmic and Interconnect Metallisations for Nanostructure Construction"
 Y. Feng, **R.P. Taylor**, P.T. Coleridge, A.S. Sachrajda, M. Davies, P. Zawadski and J.P. McCaffrey
 Proceedings of "The 7th International Conference on Superlattices, Microstructures and Microdevices", Banff, Canada, 1994
 Published: *Superlattices and Microstructures* **15** 85 (1994) (REFEREED)
50. "A Tunable Ballistic Electron Cavity Exhibiting Geometry Induced Weak Localisation"

R.P. Taylor, R. Newbury, R.B. Dunford, P.T. Coleridge, A.S. Sachrajda and J.A. Adams
Proceedings of "The 7th International Conference on Superlattices, Microstructures
and Microdevices", Banff, Canada, 1994
Published: *Superlattices and Microstructures* **16** 317 (1994) (REFEREED)

51. "Classically, the Strangest of Things, When Quantum Dots are Quantum Rings"
A. Delage, Y. Feng, P.J. Kelly, A.S. Sachrajda and **R.P. Taylor**
Proceedings of The 5th conference on Quantum Well and Superlattice Physics, *LASE'93*,
Los Angeles, USA, 1994
Published by the International Society for Optical Engineering **2139** 353 (1995) (REFEREED)
52. "Artificial Impurities in Quantum Wires and Dots"
A.S. Sachrajda, Y. Feng, G. Kirczenow, **R.P. Taylor**, B.L. Johnson, P.J. Kelly, P. Zawadski
and P.T. Coleridge
Proceedings of the NATO Advanced Study Institute, Lucca, Italy, 1994
Published: *Quantum Transport in Ultra-small Devices*, Plenum Press 133 (1995) (REFEREED)
53. "Artificial Impurities in Quantum Wires"
A.S. Sachrajda, Y. Feng, **R.P. Taylor**, G. Kirczenow, B.L. Johnson, P. Zawadski
and P.T. Coleridge
Invited contribution, *Proceedings of The 22nd International Conference on the
Physics of Semiconductors*, Vancouver, Canada, 1994
Published: World Scientific (Ed. by D.Lockward) **2** 1815 (1995) (INVITED & REFEREED)
54. "The Quantum Hall Effect and Inter-edge State Tunnelling Within a Barrier"
B.L. Johnson, A.S. Sachrajda, G. Kirczenow, Y. Feng, **R.P. Taylor**, L. Henning, J. Wang,
P. Zawadski and P.T. Coleridge
Published: *Physical Review B* **51** 7650 (1995) (REFEREED)
55. "Classical and Weak Localisation Processes in a Tunable Ballistic Electron Cavity"
R.P. Taylor, R. Newbury, R.B. Dunford, P.T. Coleridge, A.S. Sachrajda and J.A. Adams
Published: *Physical Review B* **51** 9801 (1995) (REFEREED)
56. "Fabrication of Nanostructures with Submicron Schottky and Ohmic Contacts"
Y. Feng, A.S. Sachrajda, P.T. Coleridge, **R.P. Taylor**, M. Davies and P.A. Marshall
Published: *Journal of Vacuum Science and Technology B* **13** 2875 (1995) (REFEREED)
57. "Lead-induced Transition to Chaos in Ballistic Mesoscopic Billiards"
J.P. Bird, D.M. Olatona, R. Newbury, **R.P. Taylor**, K. Ishibashi, M. Stopa, Y. Aoyagi
and T. Sugano
Published: *Physical Review B Rapid Communication* **52** R14336 (1995) (REFEREED)
58. "Transition From Chaotic to Regular Quantum Scattering in Mesoscopic Billiards
With Nominally Regular Geometry"
J.P. Bird, D.K. Ferry, G. Edwards, D.M. Olatona, R. Newbury, **R.P. Taylor**, K. Ishibashi
Y. Aoyagi, T. Sugano and Y. Ochiai
Proceedings of "The 3rd International Symposium on New Phenomena in Mesoscopic Structures",
Hawaii, USA 1995
Published: *Physica B* **227** 148 (1996) (REFEREED)
59. "Investigations of Electron Interference and Quantum Chaos in Ballistic Quantum Dots
with Square Geometry"
J.P. Bird, K. Ishibashi, R. Newbury, D.M. Olatona, **R.P. Taylor**, Y. Ochiai, Y. Aoyagi
and T. Sugano
Proceedings of "The 7th Brazilian Workshop on Semiconductor Physics",
Rio de Janeiro, Brazil, 1995
Published: *Brazilian Journal of Physics* **26** 1 (1996) (REFEREED)
60. "Geometry Induced Quantum Interference: a Continuous Evolution From Square

to Sinai Billiard"

R.P. Taylor, R. Newbury, A.S. Sachrajda, Y. Feng, N. Zhu, H. Guo, P.T. Coleridge, A. Delage, P.J. Kelly, Z. Wasilewski and P. Zawadzki

Proceedings of "NanoMes 96" (3rd International Symposium on Nanostructures and Mesoscopic Systems), Santa Fe, USA, 1996

Published: *Superlattices and Microstructures* **20** 297 (1996) (REFEREED)

61. "The Topological Transition from a Corbino Disc to Hall Bar Geometry"
A.S. Sachrajda, Y. Feng, **R.P. Taylor**, R. Newbury and P.T. Coleridge
Proceedings of "NanoMes 96" (3rd International Symposium on Nanostructures and Mesoscopic Systems), Santa Fe, USA, 1996
Published: *Superlattices and Microstructures* **20** 651 (1996) (REFEREED)
62. "The Role of Lead Openings in Regular Mesoscopic Billiards"
J.P. Bird, D.K. Ferry, R. Akis, R. Newbury, **R.P. Taylor**, D.M. Olatona, Y. Ochiai, K. Ishibashi, Y. Aoyagi and T. Sugano
Invited presentation in the proceedings of "NanoMes 96" (3rd International Symposium on Nanostructures and Mesoscopic Systems), Santa Fe, USA, 1996
Published: *Superlattices and Microstructures* **20** 287 (1996) (REFEREED)
63. "The Transition from a Square to Sinai Billiard"
R.P. Taylor, R. Newbury, A.S. Sachrajda, Y. Feng, P.T. Coleridge, Z. Wasilewski
N. Zhu and H. Guo
Proceedings of The 23rd International Conference on Semiconductor Physics, Berlin, Germany, 1996
Published: World Scientific (Eds. M. Scheffler and R. Zimmermann) **2** 1549 (1996) (NON-REFEREED)
64. "The Use of Wide Ballistic Cavities to Investigate Local Weak Localisation Processes Induced by Geometric Scattering"
R.P. Taylor, R. Newbury, A.S. Sachrajda, P.T. Coleridge, P. Zawadzki, R.B. Dunford, Y. Feng, J.P. Bird, C.R. Leavens, J.M. Cadogan, J.A. Adams, P.J. Kelly, M. Davies and S. Brown
Published: *Semiconductor Science and Technology* **11** 1 (1996) (REFEREED)
65. "The Influence of Injection Properties on the Electron Scattering Dynamics of Ballistic Cavities"
R.P. Taylor, J.P. Bird and R. Newbury
Published: *The Journal of the Physical Society of Japan* **65** 2730 (1996) (REFEREED)
66. "Can Ohmic Spikes Define Quantum Systems?"
R.P. Taylor, R. Newbury, A.S. Sachrajda, Y. Feng, P.T. Coleridge, M. Davies and J.P. McCaffrey
Proceedings of "The New Zealand and Australian Institutes of Physics Annual Condensed Matter Physics Meeting" (Wagga 97), Pakatoa Island, New Zealand, 1997
ISSN 1037-1214, page TM08, (1997) (UNREFEREED, EXTENDED ABSTRACT)
67. "Fractal Behaviour in the Magnetoresistance in a Sinai Billiard"
R. Newbury, **R.P. Taylor**, A.S. Sachrajda, Y. Feng, P.T. Coleridge, C. Dettmann and T.M. Fromhold
Proceedings of "The New Zealand and Australian Institutes of Physics Annual Condensed Matter Physics Meeting" (Wagga'97), Pakatoa Island, New Zealand, 1997
ISSN 1037-1214, page WM04, (1997) (UNREFEREED, EXTENDED ABSTRACT)
68. "Electron Behaviour In AlGaAs/GaAs Square Quantum Dots"
A.P. Micolich, **R.P. Taylor**, J.P. Bird and R. Newbury
Proceedings of "The New Zealand and Australian Institutes of Physics Annual Condensed Matter Physics Meeting" (Wagga'97), Pakatoa Island, New Zealand, 1997
ISSN 1037-1214, page TP20, (1997) (UNREFEREED, EXTENDED ABSTRACT)

69. "Aharonov-Bohm Oscillations in Quantum Dots: Precise Departures from h/e Periodicity"
 J.P. Bird, M. Stopa, R. Newbury, **R.P. Taylor**, K. Ishibashi, Y. Aoyagi and T. Sugano
 Proceedings of "The 8th International Conference on Superlattices, Microstructures
 and Microdevices", Liege, Belgium, 1996
 Published: *Superlattices and Microstructures* **22** 57 (1997) (REFEREED)
70. "Can Ohmic Spikes Define Quantum Systems?"
R.P. Taylor, R. Newbury, A.S. Sachrajda, Y. Feng, P.T. Coleridge, J.P. McCaffrey,
 M. Davies and J.P. Bird
 Proceedings of "QDS'96" (1996 International Symposium on the Formation, Physics
 and Device Application of Quantum Dot Structures), Sapporo, Japan, 1996
 Published: *Japanese Journal of Applied Physics* **36** 3964 (1997) (REFEREED)
71. "Fractal Behaviour in the Magnetoresistance of Chaotic Billiards"
 R. Newbury, **R.P. Taylor**, A.S. Sachrajda, Y. Feng, P.T. Coleridge, C. Dettmann
 and T.M. Fromhold
 Proceedings of "QDS'96" (1996 International Symposium on the Formation, Physics and
 Device Application of Quantum Dot Structures), Sapporo, Japan, 1996
 Published: *Japanese Journal of Applied Physics* **36** 3991 (1997) (REFEREED)
72. "The Role of Electron Phase Coherence in Quantum Transport Through Open Ballistic Cavities"
 J.P. Bird, A.P. Micolich, R. Akis, D.K. Ferry, R. Newbury, **R.P. Taylor**, D.M. Olatona,
 R. Wirtz, Y. Ochiai, K. Ishibashi, Y. Aoyagi and T. Sugano
 Proceedings of "QDS'96" (1996 International Symposium on the Formation, Physics and
 Device Application of Quantum Dot Structures), Sapporo, Japan, 1996
 Published: *Japanese Journal of Applied Physics* **36** 3969 (1997) (REFEREED)
73. "Self-similar Magnetoresistance in a Semiconductor Sinai Billiard"
R.P. Taylor, R. Newbury, A.S. Sachrajda, Y. Feng, P.T. Coleridge, C. Dettmann, N. Zhu,
 H. Guo, A. Delage, P.J. Kelly and Z. Wasilewski
 Published: *Physical Review Letters* **78** 1952 (1997) (REFEREED) and *Nature* **386** 124 (1997)
74. "Quantum Transport in Open Mesoscopic Cavities"
 J.P. Bird, R. Akis, D.K. Ferry, D.P. Piven, K. Connolly, **R.P. Taylor**, R. Newbury,
 D.M. Olatona, A.P. Micolich, R. Wirtz, Y. Ochiai, Y. Okubo, K. Ishibashi, Y. Aoyagi
 and T. Sugano
 Invited contribution to *Chaos, Solitons and Fractals*, Pergamon/ Elsevier Press,
 (Ed. N. Nakamura) **8** 1299 (1997) (INVITED & REFEREED)
75. "Ohmic Contact Spike Arrays for Nanostructure Device Fabrication: Spike
 Distribution and Geometry Scattering of the Electron Wave Current"
 R. Newbury, **R.P. Taylor**, A.S. Sachrajda, P.T. Coleridge, Y. Feng,
 M. Davies and J.P. McCaffrey
 Proceedings of the Conference on Optoelectronic and Microelectronic Materials
 and Devices (COMMAD'96), Canberra, Australia, 1996
 Published: *IEEE Journal ISBN 0-7803-3374-8/97 page 192* (1997) (REFEREED)
76. "Tunable Semiconductor Sinai Billiards"
R.P. Taylor, R. Newbury, A.S. Sachrajda, Y. Feng and P.T. Coleridge
 Proceedings of the Conference on Optoelectronic and Microelectronic Materials
 and Devices (COMMAD'96), Canberra, Australia, 1996
 Published: *IEEE Journal ISBN 0-7803-3374-8/97 page 171* (1997) (REFEREED)
77. "Correlation Analysis of Self-similarity in Semiconductor Billiards"
R.P. Taylor, A.P. Micolich, R. Newbury and T.M. Fromhold
 Published: *Physical Review B Rapid Communications* **56** R12733 (1997) (REFEREED)
78. "Fractal Transistors"

- R.P. Taylor**, A.P. Micolich, R. Newbury, C. Dettmann and T.M. Fromhold
 Published: *Semiconductor Science and Technology* **12** 1459 (1997) (REFEREED)
79. "Phase Breaking as a probe of the Intrinsic Level Spectrum of Open Quantum Dots"
 J.P. Bird, H. Linke, J. Cooper, A.P. Micolich, D.K. Ferry, R. Akis, Y. Ochiai, **R.P. Taylor**,
 R. Newbury, P. Omling, Y. Aoyagi and T. Sugano
 Proceedings of "The 10th International Conference on Hot Carriers in Semiconductors",
 Berlin, Germany, 1997
 Published: *Physica Status Solidi B* **204** 314 (1997) (REFEREED)
80. "Chaos in Modern Art?"
R.P. Taylor
 Published: *Physics World*, 76 (November 1997) (COMMISSIONED)
81. "Correlation Analysis of Statistical and Exact Self-similarity in Billiards"
 A.P. Micolich, **R.P. Taylor**, R. Newbury, J.P. Bird, T.M. Fromhold and J. Cooper
 Proceedings of "The New Zealand and Australian Institutes of Physics Annual Condensed
 Matter Physics Meeting", (Wagga'98), Wagga, Australia, 1998
 ISSN 1037 1214, page TM11 (1998) (UNREFEREED, EXTENDED ABSTRACT)
82. "Fractional Brownian Statistics of Magneto-conductance Fluctuations"
 A.P. Micolich, **R.P. Taylor**, R. Newbury and J.P. Bird
 Proceedings of "The New Zealand and Australian Institutes of Physics Annual Condensed
 Matter Physics Meeting", (Wagga'98), Wagga, Australia, 1998
 ISSN 1037 1214, page TP49 (1998) (UNREFEREED, EXTENDED ABSTRACT)
83. "Geometry-induced Fractal Behaviour in a Semiconductor Billiard"
 A.P. Micolich, **R.P. Taylor**, R. Newbury, J.P. Bird, R. Wirtz, C.P. Dettmann,
 Y. Aoyagi and T. Sugano
 Published: *Journal of Physics: Condensed Matter* **10** 1339 (1998) (REFEREED)
84. "Fractals and Self-similarity in Mesoscopic Semiconductor Billiards"
 A.P. Micolich, **R.P. Taylor**, R. Newbury, T.M. Fromhold and C.R. Tench
 Published: *Australian and New Zealand Physicist* **35** 151 (1998) (INVITED)
85. "Experimental and Theoretical Investigations of Clusters in the Magnetofingerprints of a
 Sinai Billiard"
R.P. Taylor, A.P. Micolich, R. Newbury, T.M. Fromhold, C. Dettmann and C.R. Tench
 Proceedings of "The 2nd International Conference on Low Dimensional Structures and
 Devices", Lisbon, Portugal, 1997
 Published: *Materials Science and Engineering B* **51** 212 (1998) (REFEREED)
86. "Self-similar Conductance Fluctuations in a Sinai Billiard with a Mixed Chaotic Phase
 Space: Theory and Experiment"
 T.M. Fromhold, C.R. Tench, **R.P. Taylor**, A.P. Micolich and R. Newbury
 Proceedings of "The 12th International Conference on the Electronic Properties
 of Two Dimensional Systems", Tokyo, Japan, 1997
 Published: *Physica B* **249-251** 334 (1998) (REFEREED)
87. "Geometry-induced Fractal Behaviour: Fractional Brownian Motion in a Ballistic
 Mesoscopic Billiard"
 A.P. Micolich, **R.P. Taylor**, R. Newbury, J.P. Bird, T.M. Fromhold, Y. Aoyagi and T. Sugano
 Proceedings of "The 12th International Conference on the Electronic Properties
 of Two Dimensional Systems", Tokyo, Japan, 1997
 Published: *Physica B* **249-251** 343 (1998) (REFEREED)
88. "Wavefunction Scarring in Magneto-transport of Quantum Dots"
 Y. Ochiai, Y. Okuba, N. Sasaki, J.P. Bird, K. Ishibashi, Y. Aoyagi, T. Sugano, A.P. Micolich,
R.P. Taylor, R. Newbury, D. Vasileska, R. Akis and D.K. Ferry

Proceedings of "The 12th International Conference on the Electronic Properties of Two Dimensional Systems", Tokyo, Japan, 1997
Published: *Physica B* **249-251** 353 (1998) (REFEREED)

89. "Experimental and Theoretical Investigations of Electron Dynamics in a Semiconductor Sinai Billiard"
A.P. Micolich, R.P. Taylor, R. Newbury, C. Dettmann and T.M. Fromhold
Published: *Australian Journal of Physics* **51** 1 (1998) (REFEREED)
90. "Scale Factor Mapping of Statistical and Exact Self-similarity in Billiards"
A.P. Micolich, R.P. Taylor, J.P. Bird, R. Newbury, T.M. Fromhold, J. Cooper, Y. Aoyagi and T. Sugano
Proceedings of "The 2nd International Workshop on Surfaces and Interfaces of Mesoscopic Devices, Hawaii, USA, 1997
Published: *Semiconductor Science and Technology* **13** 1 (1998) (REFEREED)
91. "Exact and Statistical Self-similarity in Magnetoconductance Fluctuations: a Unified Picture"
R.P. Taylor, A.P. Micolich, R. Newbury, J.P. Bird, T.M. Fromhold, J. Cooper, Y. Aoyagi and T. Sugano
Published: *Physical Review B Brief Reports*, **58** 11107 (1998) (REFEREED)
92. "An Investigation of Current Injection Properties of Ohmic Spikes in Nanostructures"
R.P. Taylor, R. Newbury, A.S. Sachrajda, Y. Feng, P.T. Coleridge, M. Davies and J.P. McCaffrey
Proceedings of "The 8th International Conference on Superlattices, Microstructures and Microdevices", Liege, Belgium, 1996
Published: *Superlattices and Microstructures* **24** (5) 337 (1998) (REFEREED)
93. "Mesoscopic Electron Transport"
R.P. Taylor,
Invited Review, *The Australian and New Zealand Physicist*, 35 183 (1998)
(INVITED AND UNREFEREED)
94. "Splashdown"
R.P. Taylor
Published: *New Scientist* **2144** 30 (1998) (INVITED)
95. "Fractal Conductance Fluctuations in Mesoscopic Billiards: an Observation Over Three Orders of Magnitude"
R.P. Taylor, A.P. Micolich, R. Newbury, T.M. Fromhold and H. Linke
Proceedings of "The American Physical Society Annual Meeting", Atlanta, U.S.A., 1999
American Physical Society Bulletin, Centennial Meeting program, DP01.185 (1999) (UNREFEREED, EXTENDED ABSTRACT)
96. "Experimental Quantum Ratchets Based on Nanostructures"
H. Linke, P.E. Lindelof, A. Lofgren, R. Newbury, P. Omling, W. Sheng, A. Svensson, **R.P. Taylor** and Hongqi Xu
Proceedings of "The American Physical Society Annual Meeting", Atlanta, U.S.A., 1999
American Physical Society Bulletin, Centennial Meeting program, DP01.185 (1999) (UNREFEREED, EXTENDED ABSTRACT)
97. "Fractal Magneto-conductance in Mesoscopic Billiards: Temperature and Size Dependence"
A.P. Micolich, **R.P. Taylor**, J.P. Bird , R. Newbury, Y. Aoyagi and T. Sugano
Proceedings of "The New Zealand and Australian Institutes of Physics Annual Condensed Matter Physics Meeting", (Wagga'99), Wagga, Australia, 1999
ISSN 1037-1214, Page TM8, (1999) (UNREFEREED, EXTENDED ABSTRACT)
98. "Physical Realisation of Weierstrass Scaling in Soft-wall Antidot Billiards"

A.P. Micolich, **R.P. Taylor**, T.M. Fromhold, C.R. Tench and R. Newbury
Proceedings of "The New Zealand and Australian Institutes of Physics Annual Condensed
Matter Physics Meeting", (Wagga'99), Wagga, Australia, 1999
ISSN 1037-1214, Page WP14, (1999) (UNREFEREED, EXTENDED ABSTRACT)

99. "Examination of the 0.7(2e2/h) Feature in the Quantised Conductance of a Quantum Point Contact: Varying the Effective g-Factor with Hydrostatic Pressure"
R. Wirtz, J.T. Nichols, **R.P. Taylor**, R. Newbury, W.R. Tribe and M. Y. Simmons
Proceedings of "The New Zealand and Australian Institutes of Physics Annual Condensed
Matter Physics Meeting", (Wagga'99), Wagga, Australia, 1999
ISSN 1037-1214, Page WP10, (1999) (UNREFEREED, EXTENDED ABSTRACT)
100. "Unification of Exact and Statistical Self-similarity in Semiconductor Billiards"
R.P. Taylor, A.P. Micolich, T.M. Fromhold, C.R. Tench, R. Newbury, J.P. Bird, J. Cooper
Y. Aoyagi and T. Sugano
Proceedings of The 24th International Conference on the Physics of Semiconductors,
Jerusalem, Israel, 1998
Published: World Scientific (available on CDROM, Chapter 7, A14 (1999)) (UNREFEREED)
101. "Physical Realisation of Weierstrass Scaling using a Quantum Interferometer"
A.P. Micolich, **R.P. Taylor**, T.M. Fromhold, C.R. Tench and R. Newbury
Proceedings of "The 11th International Conference on Superlattices, Microstructures
and Microdevices", Hurgarda, Egypt, 1998
Published: *Superlattices and Microstructures* **25** 207 (1999) (REFEREED)
102. "Temperature Dependence of the Fractal Dimension of Magneto-conductance
Fluctuations in a Mesoscopic Semiconductor Billiard"
A.P. Micolich, **R.P. Taylor**, J.P. Bird, R. Newbury, Y. Aoyagi and T. Sugano
Proceedings of "The 11th International Conference on Superlattices, Microstructures
and Microdevices", Hurgarda, Egypt, 1998
Published: *Superlattices and Microstructures* **25** 157 (1999) (REFEREED)
103. "Scale Factor Mapping of Self-similarity in Semiconductor Billiards"
R.P. Taylor, A.P. Micolich, R. Newbury, T.M. Fromhold, C.R. Tench, J.P. Bird
and J. Cooper
Proceedings of "The 1998 Conference on Optoelectronic and Microelectronic
Materials and Devices", Perth, Australia.
Published: *IEEE Journal* ISBN 0-7803-4513-4, 475 (1999) (REFEREED)
104. "Temperature Dependent Fractal Electron Transmission in Mesoscopic Billiards"
A.P. Micolich, **R.P. Taylor**, J.P. Bird, R. Newbury, Y. Aoyagi and T. Sugano
Proceedings of "The 1998 Conference on Optoelectronic and Microelectronic
Materials and Devices", Perth, Australia.
Published: *IEEE Journal* ISBN 0-7803-4513-4, 471 (1999) (REFEREED)
105. "Physical Realisation of Weierstrass Scaling in a Soft-wall Antidot Billiard"
A.P. Micolich, **R.P. Taylor**, T.M. Fromhold, C.R. Tench and R. Newbury
Proceedings of "The 1998 Conference on Optoelectronic and Microelectronic
Materials and Devices", Perth, Australia.
Published: *IEEE Journal* ISBN 0-7803-4513-4, 468 (1999) (REFEREED)
106. "Observation of Fractal Conductance Fluctuations over Three Orders of Magnitude"
R.P. Taylor, A.P. Micolich, R. Newbury, T.M. Fromhold and C.R. Tench
Proceedings of "The 8th Gordon Godfrey Workshop on Condensed Matter Physics",
Sydney, Australia, 1998
Published: *Australian Journal of Physics*, **52** 887 (1999) (REFEREED)
107. "Chaotic Ray Dynamics and Fast Optical Switching in Micro-cavities with a Graded
Refractive Index"

- P.B. Wilkinson, T.M. Fromhold, C.R. Tench, **R.P. Taylor**, A.P. Micolich and R. Newbury
 Proceedings of "The 11th International Conference on Hot Carriers in Semiconductors"
 Kyoto, Japan, July 1999.
 Published: *Physica B* **272** 484 (1999) (REFEREED)
108. "Voltage and Temperature Limits for the Operation of a Quantum Dot Ratchet"
 H. Linke, Hongqi Xu, A. Lofgren, Weidong Sheng, A. Svensson, P. Omling, P.E. Lindelof,
 R. Newbury and **R.P. Taylor**
 Proceedings of "The 11th International Conference on Hot Carriers in Semiconductors"
 Kyoto, Japan, July 1999.
 Published: *Physica B* **272** 61 (1999) (REFEREED)
109. "Comment on Fractal Conductance Fluctuations in a Soft Wall Stadium and a
 Sinai Billiard"
R.P. Taylor, A.P. Micolich, T.M. Fromhold and R. Newbury
 Published: *Physical Review Letters* **83** (5) 1074 (1999) (REFEREED)
110. "Experimental Tunnelling Ratchet"
 H. Linke, T.E. Humphrey, A. Lofgren, A.O. Sushkov, R. Newbury, **R.P. Taylor** and P. Omling
 Published: *Science* **286** 2314 (1999) (REFEREED)
111. "Greater Neuronal Cell Density Occurs in Females in the Language-associated Planum
 Temporale"
 J.A. Harasty, G.M. Halliday, X. Phung and **R.P. Taylor**
 Published: *Proceedings of the Australian Neuroscience Society* **10** 53
 ISBN 1034 1034-3237 (1999)
 (UNREFEREED, EXTENDED ABSTRACT)
112. "Fractal Analysis of Pollock's Drip Paintings"
R.P. Taylor, A.P. Micolich and D. Jonas
 Published: *Nature* **399** 422 (1999) (REFEREED)
113. "Fractal Expressionism: A Scientific Analysis of Jackson Pollock's Drip Paintings"
R.P. Taylor, A.P. Micolich and D. Jonas
 Published: Pass Magazine (University of Cambridge, <http://www.pass.maths.org.uk>)
114. "The Story of a Chaotic Pendulum: Where Science and Art Meet"
R.P. Taylor, A.P. Micolich and D. Jonas
 Published: *The Physicist* **36** (3) 93 (1999) (cover picture and feature article) (INVITED)
115. "Fractal Expressionism: A Scientific Analysis of Jackson Pollock's Drip Paintings"
R.P. Taylor, A.P. Micolich and D. Jonas
 Published: *Physics World*, 25 (October 1999) (cover picture and feature article) (INVITED)
116. "Tunnelling Ratchets"
 T.E. Humphrey, H. Linke, A. Lofgren, R. Newbury, P. Omling, A. Sushkov and **R.P. Taylor**
 Proceedings of "The American Physical Society Annual Meeting", Minneapolis, U.S.A., 2000
American Physical Society Bulletin, **45** 861, 2000 (UNREFEREED, EXTENDED ABSTRACT)
117. "Tunnelling Ratchets"
 T. E. Humphrey, H. Linke, A. Löfgren, R. Newbury, P. Omling, A. Sushkov, and **R.P. Taylor**
 Proceedings of "The New Zealand and Australian Institutes of Physics Annual Condensed
 Matter Physics Meeting", (Wagga'2000), Wagga, Australia, 2000
 (UNREFEREED, EXTENDED ABSTRACT)
118. "A Physical Explanation for the Origin of Self-similar Magnetoconductance Fluctuations
 in Semiconductor Billiards"
 C.R. Tench, T.M. Fromhold, P.B. Wilkinson, M.J. Carter, **R.P. Taylor**, A.P. Micolich
 and R. Newbury

Proceedings of "The 9th International Conference on Modulated Semiconductor Systems"
Fukuoka, Japan, July, 1999
Published: *Physica E* **7** 726 (2000) (REFEREED)

119. "Temperature and Size Dependence of Fractal MCF in Semiconductor Billiards"
A.P. Micolich, **R.P. Taylor**, J.P. Bird, R. Newbury, H. Linke, Y. Aoyagi and T. Sugano
Proceedings of "The 3rd International Conference on Low Dimensional Structures and Devices", Antalya, Turkey, 1999.
Published: *Microelectronics Engineering* **51-52** 241 (2000) (REFEREED)
120. "An Investigation of Weierstrass Self-similarity in a Semiconductor Billiard"
A.P. Micolich, **R.P. Taylor**, R. Newbury, T.M. Fromhold and C.R. Tench
Published: *Europhysics Letters* **49** 417 (2000) (REFEREED)
121. "Using Science to Investigate Jackson Pollock's Drip Paintings"
R.P. Taylor, A.P. Micolich and D. Jonas
Published: Invited contribution to "Art and the Brain", *Journal of Consciousness Studies* **7** (8-9) 137 (2000) (INVITED & REFEREED)
122. " Jackson Pollock: Nature, Chaos and Fractals"
R.P. Taylor
Published: *Thesis, Art Theory, University of New South Wales* (1999) (REFEREED)
123. "Stacked Billiards: Examining the Effect of Soft-wall Potential Profile on Fractal Conductance Fluctuations"
A.P. Micolich, **R.P. Taylor**, A.G. Davies, J.P. Bird, R. Newbury, T.M. Fromhold, A. Ehlert, H. Linke, L.D. Macks, W.R. Tribe, E.H. Linfield and D. A. Ritchie
Proceedings of "The American Physical Society Annual Meeting", Seattle, U.S.A., 2001
American Physical Society Bulletin, 2001 (UNREFEREED, EXTENDED ABSTRACT)
124. "The Evolution of Fractal Patterns During a Classical-Quantum Transition"
R.P. Taylor, A.P. Micolich, R. Newbury, A. Ehlert, A.G. Davies, L.D. Macks, H. Linke, T.M. Fromhold, W.R. Tribe, E.H. Linfield and D. A. Ritchie
Proceedings of "The American Physical Society Annual Meeting", Seattle, U.S.A., 2001
American Physical Society Bulletin, 2001 (UNREFEREED, EXTENDED ABSTRACT)
125. "Semiconductor Billiards: a Controlled Environment to Study Fractals"
R.P. Taylor, A.P. Micolich, R. Newbury , T.M. Fromhold, A. Ehlert , A.G. Davies, L.D Macks, C.R. Tench, J.P. Bird, R. H. Linke, W.R. Tribe, E.H. Linfield and D.A. Ritchie
Published: *Physica Scripta* **T90** 41 (2001) (REFEREED)
126. "Electron Tunnelling Ratchets"
H. Linke, P. Omling, T.E. Humphrey, A. Lofgren, R. Newbury, A.O. Sushkov and **R.P. Taylor**
Published: *Springer Proceedings in Physics Physics of Semiconductors*, **87** 1009-1012 (2001) (INVITED & REFEREED)
127. "Chaos in Quantum Ratchets"
H. Linke, T.E. Humphrey, **R.P. Taylor** and R. Newbury
Published: *Physica Scripta* **T90** 54 (2001) (REFEREED)
128. "Electromagnetic Wave Chaos in Gradient Refractive Index Optical Cavities"
P.B. Wilkinson, T.M. Fromhold, **R.P. Taylor** and A.P. Micolich
Published: *Physical Review Letters* **86** 5466 (2001) (REFEREED)
129. "The Evolution of Fractal Patterns during a Classical-Quantum Transition"
A.P. Micolich, **R.P. Taylor**, A.G. Davies, J.P. Bird, R. Newbury, T.M. Fromhold, A. Ehlert, H. Linke, L.D Macks, W.R. Tribe, E.H. Linfield, D.A. Ritchie, J. Cooper, Y. Aoyagi and P.B. Wilkinson
Published: *Physical Review Letters* **87** 036802 (2001) (REFEREED)

130. "A Compact Fourth-Order Finite Difference Method For Solving Differential Equations"
 P.B. Wilkinson, T.M. Fromhold, C. R. Tench, **R.P. Taylor** and A.P. Micolich
 Published: *Physical Review E* **64** 047701-1-4 (2001) (REFEREED)
131. "Effects of Geometric Wave Chaos on the Electromagnetic Eigenmodes of Gradient-index Optical Cavity"
 P.B. Wilkinson, T.M. Fromhold, **R.P. Taylor** and A.P. Micolich
 Published: *Physical Review E* **64** 026203 (2001) (REFEREED)
132. "Semiconductor Billiards: a Controlled Environment to Study Fractals"
R.P. Taylor, A.P. Micolich, R. Newbury, T.M. Fromhold, A. Ehlert , A.G. Davies, L.D Macks, C.R. Tench, J.P. Bird, R. H. Linke, W.R. Tribe, E.H. Linfield and D.A. Ritchie
 Invited contribution to the Nobel Foundation book *Y2K Quantum Chaos*,
 Published: World Scientific (Singapore) (ISBN 981 02 4711-7) and
 The Royal Swedish Academy of Sciences, 41 (2001) (INVITED)
133. "Architect Reaches for the Clouds"
R.P. Taylor
 Published: *Nature* **410** 18 (2001) (COMMISIONED)
134. "From Science To Art and Back"
R.P. Taylor
 Published: *Science* on line: <http://nextwave.sciencemag.org/cgi/content/full/2001/04/25/1>
 (2001) (INVITED CAREER ESSAY)
135. "Fractals: A Resonance Between Art and Nature"
R.P. Taylor, B.R. Newell, B. Spehar and C.W.G. Clifford
 Invited contribution to proceedings of "The 5th International Conference on the Interdisciplinary Study of Symmetry (ISIS)", Sydney 2001.
 Published: *Symmetry: Art and Science*, ISIS Journal (ISBN 865-4824)
1-2, 194 (2001) (INVITED EXTENDED ABSTRACT)
136. "The Dependence of Fractal Conductance Fluctuations on Soft-wall Profile in a Double-2DEG Billiard"
 A.P. Micolich, **R.P. Taylor**, A.G. Davies, T.M. Fromhold, R. Newbury, A. Elhert, H. Linke, L.D Macks, W.R. Tribe, E.H. Linfield and D.A. Ritchie
 Proceedings of "The 14th International Conference on the Physics of Two Dimensional Systems", Prague, Czech Republic, July 2001.
 Published: *Physica E* **12** 841 (2002) (REFEREED)
137. "Discrete Energy Level Spectrum Dependence of Fractal Conductance Fluctuations in Semiconductor Billiards"
 A.P. Micolich, **R.P. Taylor**, A.G. Davies, J.P. Bird, A. Ehlert, T.M. Fromhold, R. Newbury, H. Linke, L.D Macks, W.R. Tribe, E.H. Linfield and D.A. Ritchie
 Proceedings of "The 10th International Conference on Modulated Semiconductor Structures", Linz, Austria, July 2001
 Published: *Physica E* **13** 683-686 (2002) (REFEREED)
138. "The Dependence of Fractal Conductance Fluctuations on Semiconductor Billiard Parameters"
 A.P. Micolich, **R.P. Taylor**, R. Newbury, J.P. Bird, T.M. Fromhold, A.G. Davies, A. Elhert, L.D Macks, W.R. Tribe, H. Linke, E.H. Linfield, D.A. Ritchie, J. Cooper and Y. Aoyagi
 Proceedings of "The 12th International Conference on Nonequilibrium Carrier Dynamics in Semiconductors (HCIS-12)"
 Published: *Physica B* **314** 477 (2002) (REFEREED)
139. "Quantum Ratchets Act as Quantum Heat Pumps"
 H. Linke, T.E. Humphrey, **R.P. Taylor**, A.P. Micolich and R. Newbury
 Proceedings of the 12th International Conference on Nonequilibrium Carrier Dynamics in Semiconductors (HCIS-12).
 Published: *Physica B* **314** 464 (2002) (REFEREED)

140. "Quantum Ratchets and Quantum Heat Pumps"
 H. Linke, T.E. Humphrey, P.E. Lindelof, A. Loffgren, R. Newbury, P. Omling,
 A.O. Sushkov, **R.P Taylor** and H. Xu
 Published: *Applied Physics A* **75** 237 (2002) (REFEREED)
141. "The Dependence of Fractal Conductance Fluctuations on Soft-wall Profile in a Double-layer Billiard"
 A.P. Micolich, **R.P. Taylor**, A.G. Davies, T.M. Fromhold, H. Linke, R. Newbury,
 A. Elhert, L.D Macks, W.R. Tribe, E.H. Linfield and D.A. Ritchie
 Published: *Applied Physics Letters* **80** 4381 (2002) (REFEREED)
142. "Reversible Quantum Brownian Heat Engines for Electrons"
 T.E. Humphrey, R. Newbury, **R.P Taylor** and H. Linke
 Published: *Physical Review Letters* **89** 116801 (2002) (REFEREED)
143. "Dependence of Fractal conductance Fluctuations on Semiconductor Billiard Parameters"
 A.P. Micolich, **R.P. Taylor**, R. Newbury, J.P. Bird, T.M. Fromhold, A.G. Davies, L.D Macks,
 A. Elhert, H. Linke, W.R. Tribe, E.H. Linfield, D.A. Ritchie, J. Cooper and Y. Aoyagi
 Proceedings of "The Australian Institute of Physics Congress", Sydney, July 2002.
 Published: "15th Biennial Congress", Australian Institute of Physics, 367 (2002) (REFEREED)
144. "Pollock's Fractals Unite Art and Science"
R.P. Taylor
 Proceedings of the Sigma Xi Forum, Raleigh, USA, 2001.
American Scientist, June/July Issue 2002 (UNREFEREED, EXTENDED ABSTRACT)
145. "The Construction of Pollock's Fractal Drip Paintings"
R.P.Taylor, A.P.Micolich and D.Jonas
 Published: *Leonardo* **35** 203-7 (2002) (REFEREED)
146. "Spotlight on a Visual Language"
R.P. Taylor
 Published: *Nature* **415** 961 (2002) (INVITED)
147. "Fractal Design Strategies For Enhancement of Knowledge Work Environments"
 J.A. Wise and **R.P. Taylor**
 Published: Proceedings of "The Human Factors and Ergonomics Society Meeting (2002)",
 Baltimore, October 2002 CROM published by The Human Factors and Ergonomics Society,
46 854-858 (2002) (REFEREED)
148. "Order in Pollock's Chaos"
R.P. Taylor
 Published: *Scientific American*, **287** 116-121 December 2002 (COMMISSIONED)
149. "Ordine nel caos di Pollock"
R.P. Taylor
 Published: *Le Scienze*, **413** 88 (2002) (INVITED)
150. "Fractal Conductance Fluctuations in "Hard-wall" InGaAs/InP Billiards"
 C. Marlow, **R.P. Taylor**, H. Linke and T. Martin
 Proceedings of the Annual American Physical Society Meeting, Austin Texas, March 2003.
 Published: *Bulletin of the American Physical Society* **48** 101 (2003)
 (UNREFEREED, EXTENDED ABSTRACT)
151. "Fractal conductance Fluctuations in single and double-layer billiards"
R.P. Taylor, A.P. Micolich, H. Linke, A.G. Davies, T.M. Fromhold, R. Newbury,
 A. Elhert, L.D Macks, W.R. Tribe, E.H. Linfield and D.A. Ritchie
 Proceedings of "The 26th International Conference on the Physics of Semiconductors",

Edinburgh, July 2002

Published: Institute of Physics Conference Series **171** (2003) (available on CD) (REFEREED)

152. "A Review of Fractal Conductance Fluctuations in Ballistic Semiconductor Devices"
R.P. Taylor, R. Newbury, A.P. Micolich, T.M. Fromhold, H. Linke, A.G. Davies, T.P. Martin and C. Marlow
Published: Invited chapter to the book *Electron Transport in Quantum Dots*, Ed. J.P. Bird, Kluwer Academic/Plenum (2003) (INVITED)
153. "Generic Fractal Behaviour of Ballistic Devices"
R.P. Taylor, R. Newbury, A.P. Micolich, A.G. Davies, T.M. Fromhold, H. Linke, L.D Macks, W.R. Tribe, E.H. Linfield, D.A. Ritchie and T.P. Martin
Published: *Proceedings of The 2002 Conference on Optoelectronic and Microelectronic Materials and Devices*, 394, Ed. M. Gal, Spinning Head Publications ISBN 0-7803-7571-8 (2003) (INVITED & REFEREED)
154. "Geometry Independence of Fractal Ballistic Processes"
R.P. Taylor, T.P. Martin, A.P. Micolich, H. Linke, A.G. Davies, R. Newbury, and E.H. Linfield
Proceedings of "NanoMes 2003", Tempe, February 2003.
Published: *Physica* **E19** 225 (2003) (REFEREED)
155. "The Influence of Confining Wall Profile on Quantum Interference Effects in Etched GaInAs/InP Billiards"
T.P. Martin, C.A. Marlow, **R.P. Taylor**, H. Linke, G.D.R.Hall, I. Shorubalko, I. Maximov, W. Seifert, L. Samuelson, and T.M. Fromhold
Published: *Superlattices and Microstructures*, **34** 179 (2003) (REFEREED)
156. "Surviving Conduction Symmetries in Non-linear Response"
C.A. Marlow, A.Lofgren, I. Shorubalko, **R.P. Taylor**, L. Samuelson and H. Linke,
Published: *Superlattices and Microstructures* **34** 173 (2003) (REFEREED)
157. "Fractal Expressionism - Where Art Meets Science"
R.P. Taylor
Published: Invited Chapter to the book *Art and Complexity*, Ed. J. Casti and A. Karlqvist, Elsevier Science, Amsterdam (2003) (INVITED)
158. "Pollock's Fractals "
R.P. Taylor
Published: Letter, *Scientific American*, 6th April 2003 (INVITED)
159. "Second Nature: Fractured Magic from Pollock to Gehry"
R.P. Taylor
Published: Chapter to the book *Innovations*, Papadakis Publishing, London, 2003
Also published in *Newarch*, **7**, 16 (2003) (INVITED).
160. "Second Nature: Fractured Magic from Pollock to Gehry"
R.P. Taylor
Published: *Newarch*, **7**, 16 (2003) (INVITED).
161. "Universal Aesthetic of Fractals"
B. Spehar, C.W.G. Clifford, B.R. Newell and **R.P. Taylor**
Chaos and Graphics, Elsevier Press, **27** 813 (2003) (REFEREED)
162. "The Visual Complexity of Pollock's Dripped Fractals"
R.P. Taylor, B. Spehar, C.W.G. Clifford and B.R. Newell.
Published: Proceedings of "The International Conference on Complex Systems (2002)", New Hampshire, July 2002 (New England Institute of Complexity, 2003) (REFEREED)
163. "Three Key Questions on Fractal Conductance Fluctuations: Dynamics, Quantization and Coherence"

A.P. Micolich, **R.P. Taylor**, T.P. Martin, R. Newbury, T.M. Fromhold,
A.G. Davies, H. Linke, W.R. Tribe, L.D. Macks, C.G. Smith, E.H. Linfield and D.A. Ritchie.
Published: *Physical Review B* **70** 085302 (2004) (REFEREED)

164. "Three Key Questions on Fractal Conductance Fluctuations: Dynamics, Quantization and Coherence"
A.P. Micolich, **R.P. Taylor**, T.P. Martin, R. Newbury, T.M. Fromhold,
A.G. Davies, H. Linke,
W.R. Tribe, L.D. Macks, C.G. Smith, E.H. Linfield and D.A. Ritchie.
Published: *The Virtual Journal of Nanoscale Science and Technology* (American Physical Society),
10, (August 24th 2004) (www.vjnano.org).
165. "Symmetry of Two Terminal Nonlinear Electric Conduction"
A. Lofgren, C.A Marlow, I. Shorubalko, **R.P. Taylor**, L. Samuelson and H. Linke,
Published: *Physical Review Letters* **92** 046803-1 (2004) (REFEREED)
166. "Fractal Dimension of Landscape Silhouette as a Predictor of Landscape Preference"
C.M. Hagerhall, T. Purcell and **R.P. Taylor**,
Published: *Journal of Environmental Psychology* **24** 247(2004) (REFEREED)
167. "Pollock, Mondrian and Nature: Recent Scientific Investigations"
R.P. Taylor
Published: "Chaos and Complexity in Arts and Architecture", a special edition of
Chaos and Complexity Letters, **1** 29 (2004) (INVITED And REFEREED)
168. "Splatter Matters: How to Tell a Real Pollock from a Fake"
R.P. Taylor
Published: The Fabulous Fifties (The American Music Institute), 29 (2004) (INVITED)
169. "Evidence for mechanical copying and enlarging in Jan van Eyck's
Portrait of Niccolo Albergati",
R.P. Taylor,
Side-bar to D. Stork's article, "Optics and Realism in Renaissance Art", *Scientific American*,
December 2004
170. "Feel the Fascination of Fractals"
R.P. Taylor,
Published: Invited Review, *Physics World*, December 2004 (INVITED)
171. "Levy Flights"
R.P. Taylor
Invited Essay in the *Encyclopedia of Non-linear Science*, Ed. Alywn Scott,
Published: Fitzroy-Dearborn, London, (2005) (ISBN 1-57958-385-7) (INVITED)
172. "Fractal Study of Coupling Transitions in Ballistic Quantum Dot Arrays"
T.P. Martin, **R.P. Taylor**, H. Linke, B. Murray, C. Arndt, N. Aoki, D. Oonishi, Y. Iwase
and Y. Ochiai.
Published: the Proceedings of "The 27th International Conference on Physics and Semiconductors",
Flagstaff, USA July 2004, *AIP Conference Proceedings* (ISBN 0-7354-0257-4) **772** 823 (2005)
(UNREFEREED).
173. "Preserved Symmetries of Non-linear Electronic Conduction"
C.A. Marlow, A.Lofgren, I. Shorubalko, **R.P. Taylor**, L. Samuelson and H. Linke,
Published: the Proceedings of "The 27th International Conference on Physics and Semiconductors",
Flagstaff, USA July 2004, *AIP Conference Proceedings* (ISBN 0-7354-0257-4) **772** 1257-1258 (2005)
(UNREFEREED).
174. "Perceptual and Physiological Response to the Visual Complexity of Fractals"
R.P. Taylor, B. Spehar, J.A. Wise, C.W.G. Clifford, B.R. Newell, C.M. Hagerhall,
T. Purcell and T.P. Martin
Published: *The Journal of Nonlinear Dynamics, Psychology, and Life Sciences*, **9** 89 (2005)

(REFEREED)

175. “Fractal Aesthetics”
R.P. Taylor,
Published: *The Journal of Nonlinear Dynamics, Psychology, and Life Sciences* **9** 115-6 (2005) (INVITED)
176. “Fractals: A Resonance Between Art and Nature”
R.P. Taylor, B. Newell, B. Spehar and C. Clifford
Published: Invited chapter to the book *Mathematics and Culture II: Visual Perfection: Mathematics and Creativity*, Ed. M. Emmer, (Springer-Verlag, Berlin, 2005) (INVITED)
177. “Alla Ricerca Di Arte Frattale Che Riduce Lo Stress: Di Jackson Pollock A Frank Gehry”
R.P. Taylor
Published: Invited chapter to the book *Mathematics and Culture*, 247-255, Springer-Verlag, Milano, (2005) (INVITED)
178. “Fractal Aesthetics II”
R.P. Taylor,
Published: *The Journal of Nonlinear Dynamics, Psychology, and Life Sciences* **9(2)**, cover image (2005) (INVITED)
179. “Fractal Aesthetics III”
R.P. Taylor,
Published: *The Journal of Nonlinear Dynamics, Psychology, and Life Sciences* **9(3)**, cover image (2005) (INVITED)
180. “Fractal Aesthetics IV”
R.P. Taylor,
Published: *The Journal of Nonlinear Dynamics, Psychology, and Life Sciences* **9(4)**, cover image (2005) (INVITED)
181. “Jackson Pollock’s Fractal Patterns: Authenticating Art with Nature’s Geometry”
R.P. Taylor
Published: proceedings of International Conference on Art and Mathematics, University of Colorado, Boulder, USA, June 5th-10th, 2005 (INVITED)
182. “A Novel Quantum Interference Probe of the Energy Spectrum of Coupled Nanodevices”
T.P. Martin, **R.P. Taylor**, H. Linke, N. Aoki, D. Oonishi, Y. Iwase and Y. Ochiai.
Proceedings of “2nd International Conference on Advanced Materials and Nanotechnology” Queenstown, New Zealand, 6-11th February, 2005.
Published: *Current Applied Physics* (Elsevier) **6** 541-544 (2006) (REFEREED).
183. “Fractal patterns and attention restoration - Evaluations of real and artificial landscape silhouettes”
C.M. Hagerhall, T. Laike, Thorbjörn, R.P. Taylor, M. Kuller, LU Rikard and T. Martin.
Published: *Proceedings In Environment Health and Sustainable Development (IAPS 19 Conference Proceedings)* (2006).
184. “Series Summation of Fractal Fluctuations in Electron Billiard Arrays”
T.P. Martin, B.C. Scannell, C.A. Marlow, **R.P. Taylor**, H. Linke, I. Shorubalko, L. Samuelson.
Proceedings of “The 16th International Conference on the Electronic Properties of Two Dimensional Systems”, Albuquerque, USA, July 10th-16th, 2005.
Published: *Physica E* **34** 600-603 (2006) (REFEREED)
185. “Self-Propelled Film-boiling Liquids”
H. Linke, B.J. Aleman, L. D. Melling, M.J. Taormina, M. Francis, C.C. Dow-Hygelund, V. Narayanan, **R.P. Taylor**, A. Stout and G. Engelking

Physical Review Letters **96** 154502 (2006) (REFEREED)

186. "Experimental Investigation of the Breakdown of the Onsager-Casimir Relations"
C. A. Marlow, **R.P. Taylor**, M. Fairbanks, I. Shorubalko, and H. Linke,
Published: *Physical Review Letters* **96** 116801 (2006) (REFEREED)
187. "Experimental Investigation of the Breakdown of the Onsager-Casimir Relations"
C. A. Marlow, **R.P. Taylor**, M. Fairbanks, I. Shorubalko, and H. Linke,
Published: *Virtual Journal of Nanoscale Science and Technology*, American Institute
of Physics and American Physical Society, 4/3/2006
188. "Symmetry of Magnetoconductance Fluctuations of Quantum Dots in the Nonlinear
Response Regime."
A. Lofgren, C. A. Marlow, T.E. Humphrey, I. Shorubalko, **R.P. Taylor**, P. Omling, R. Newbury,
P.E. Lindelof, and H. Linke,
Published: *Physical Review B* **73**, 235321 (2006) (REFEREED)
189. "A Unified Model of Electron Quantum Interference For Ballistic and Diffusive
Semiconductor Devices"
C.A. Marlow, **R.P. Taylor**, T.P. Martin, B.C. Scannell, H. Linke, M.S. Fairbanks,
I. Shorubalko, L. Samuelson, T.M. Fromhold, C.V. Brown, B. Hackens, S. Faniel,
C. Gustin, V. Bayot, X. Wallart, S. Bollaert and A. Cappy
Published: *Physical Review B* **73** 195318-1-7 (2006) (REFEREED)
190. "Non-linear Effects on Quantum Interference in Electron Billiards"
C.A. Marlow, **R.P. Taylor**, M. Fairbanks and H. Linke
Proceedings of "The 14th International Conference on Non-equilibrium Carrier Dynamics
in Semiconductors" Chicago, USA, July 24th-29th, 2005
Published: Springer Proceedings in Physics series, **110**, ISBN 978-3-540-36587
Eds: M. Saraniti and U. Ravaioli (2006) (REFEREED).
191. "The Breakdown of the Onsager-Casimir Relations in Electron Billiards"
C. A. Marlow, M. Fairbanks, **R.P. Taylor**, I. Shorubalko, and H. Linke,
Published: Proceedings of the 28th International Conference on the Physics of Semiconductors
July 24th-28th, 2006 (UNREFEREED).
192. "The Search for Stress-Reducing Art: Fractal Geometry from Jackson Pollock to Frank Gehry"
R.P. Taylor
Published: Invited chapter to the book *Mathematics and Culture V*, 239-246,
Springer-Verlag, (2006) (INVITED).
193. "Reduction of Physiological Stress Using Fractal Art and Architecture"
R.P. Taylor
Published: *Leonardo* **39**, 245 (2006). (INVITED AND REFEREED),
194. "A Concrete Example"
J.P. Boon, J. Casti, C. Djerassi, J. Johnson, A. Lovett, T. Norrestrand, V. Patera, C. Sommerer, **R.P. Taylor** and S. Thurner
Published: *Nature* **444** 122 (2006) (INVITED).
195. "Personal Reflections on Pollock's Fractal Paintings"
R.P. Taylor
Published: invited essay, special edition of the Journal *History, Science and Health*, **13** 108-23 (2006) (INVITED).
196. "Reflexoes Pessoais Sobre as Pinturas Fractais de Jackson Pollock"
R.P. Taylor
Published: invited essay, *História, Ciências, Saúde-Manguinhos* **13** 108-23 (2006) (INVITED).

197. "Pollock's Patterns: Recent Developments"
 T.P. Martin, B.C. Scannell, M.S. Fairbanks, **R.P. Taylor**, A.P. Micolich and D. Jonas
 Published: *Fractals Research* (2006) ISBN: 0-9791874-2-7 (REFEREED)
198. "Revisiting Pollock's Poured Paintings"
R.P. Taylor, A.P. Micolich and D. Jonas
 Published: *Nature Communications Arising*, **44** doi:10.1038/nature05399 (2006) (REFEREED)
199. "Positive Impacts of Fractal Patterns on Human Physiology – Key Experiments"
R.P. Taylor, Technical document
 Published: *Fractals Research* (2006), ISBN: 0-9791874-0-0
200. "Chaos, Fractals, Nature"
R.P. Taylor, book (limited printed edition)
 Published: *Fractals Research* (2006) ISBN: 0-9791874-1-9
201. "Semantic Evaluations of Silhouettes with Different Fractal Dimensions"
 C.M. Hagerhall, T. Laike, **R.P. Taylor**, M. Küller, R. Küller and T.P Martin
 Published: *2nd International Nonlinear science Conference Proceedings* (2006) (REFEREED).
202. "Authenticating Pollock Paintings with Fractal Geometry"
R.P. Taylor, R. Guzman, T.M. Martin, G. Hall, A.P. Micolich, D. Jonas, B.C. Scannell
 M.S. Fairbanks and C.A Marlow
 Published: *Pattern Recognition Letters* **28** 695 (2007) (INVITED AND REFEREED)
203. "Blood Sweat and Electronics"
R.P. Taylor
 Published: *The Press*, September 18th, (2007) (INVITED).
204. "Quantum Conductance Fluctuations in Nano-scale Devices"
 B.C. Scannell, T.P. Martin, M.S. Fairbanks, H. Linke and **R.P. Taylor**
 Proceedings of "3rd International Conference on Advanced Materials and Nanotechnology"
 Wellington, New Zealand, 6-11th February, 2007.
 Published: *Current Applied Physics* **8** 332 (2008) (Elsevier) (REFEREED).
205. "Non-linear Characteristics in the Magnetoconductance of Electron Billiards"
 M. Fairbanks ,C.A. Marlow, **R.P. Taylor**, and H. Linke
 Proceedings of "3rd International Conference on Advanced Materials and Nanotechnology"
 Wellington, New Zealand, 6-11th February, 2007.
 Published: *Current Applied Physics* **8** 340 (2008) (Elsevier) (REFEREED).
206. "Confinement Properties of a GaInAs/InP Quantum Point Contact"
 T.P. Martin, CA. Marlow, L. Samuelson, A.R. Hamilton, H. Linke and **R.P. Taylor**,
 Published: *Physical Review B* **77** 155309 (2008) (REFEREED)
207. "Carrier Density in a GaInAs/InP heterostructure"
 T.P. Martin, CA. Marlow, L. Samuelson, H. Linke and **R.P. Taylor**,
 Proceedings of The 17th International Conference on Electronic Properties of
 Two Dimensional Systems (EP2DS17), Italy, July, 2007.
 Published: *Physica E* (Electronic properties of low dimensional semiconductors and nanostructures) **40** (5) 1754-1756 (2008) (REFEREED)
208. "Enhanced Zeeman Splitting in GaInAs Quantum Point Contacts"
 T.P. Martin, A. Szorkovszky, A.P. Micolich, A.R. Hamilton, C.A. Marlow, H. Linke
 and **R.P. Taylor**
 Published: *Applied Physics Letters* **93** 012105 (2008) (REFEREED)
209. "Enhanced Zeeman Splitting in GaInAs Quantum Point Contacts"
 T.P. Martin, A. Szorkovszky, A.P. Micolich, A.R. Hamilton, C.A. Marlow, H. Linke
 and **R.P. Taylor**

Published: Virtual Journal of Nanoscale Science & Technology, July 21st 2008 (REFEREED)

210. "Biophilic Fractals and the Visual Journey of Organic Screen-savers"
R.P. Taylor, and J.C. Sprott,
Published: *The Journal of Nonlinear Dynamics, Psychology, and Life Sciences*, **12** 117-129 (2008)
(INVITED)
211. "Buckley Trees and their Enhanced Fractal Complexity"
R.P. Taylor
Computer-generated Images published in the book "*The Complete Idiot's Guide to String Theory*"
by Scientific American editor George Musser (July 2008) (INVITED)
212. "Investigation of EEG Response to Fractal Patterns"
C.M. Hagerhall, T. Laike, **R.P. Taylor**, M. Küller, R. Küller and T.P Martin
Published: *Perception* **37** (10) 1488-1494 (2008) (REFEREED).
213. "Artistic, Scientific and Historical Investigations of the Poured Paintings called The Painting"
R.P. Taylor
Technical document
Published: *Fractals Research* (2008), ISBN: 0-9791874-3-5
214. "Dimensional Interplay Analysis of 'Poured' Paintings: Background Information."
R.P. Taylor
Technical Document
Published: *Fractals Research* (2008), ISBN: 0-9791874-4-3
215. "The Visual Complexity of Pollock's Dripped Fractals"
RP Taylor, B Spehar, CWG Clifford, BR Newell
Published: *Unifying Themes in Complex Systems IV*, Springer Berlin Heidelberg, 175-182 (2008)
216. "Chaotic Scattering in Nano-electronic Systems – From Billiards to Clusters"
T.P. Martin, C.A. Marlow, B.C. Scannell, M.S. Fairbanks, H. Linke, S.A. Brown, **R.P. Taylor**
Published: *International Journal of Nanotechnology*, 408 **6** (2009) (INVITED and REFEREED)
217. "Electronic Transport in Quasi-1D DNA-Templated Nanoparticle Arrays"
M.S. Fairbanks, G.J. Kearns, B.C. Scannell, A. Loftus, J.E. Hutchision, **R.P. Taylor**
Published: Proceeding of the APS Meeting (2009)
218. "Comment on "Drip Paintings and Fractal Analysis"
A.P. Micolich, B.C. Scannell, M.S. Fairbanks, T.P. Martin, and **R.P. Taylor**
Published: arXiv:0712.1652v1 [cond-mat.stat-mech] (2009)
219. "Chaotic Electronic Transport of Nanocluster Wires"
M.S. Fairbanks, T.P. Martin, C.A. Marlow, B.C. Scannell, H. Linke, SA. Brown, **R.P. Taylor**
Published: Proceeding of the APS Meeting (2009)
220. "The Museum of Unnatural Form: The Visual and Tactile Experience of Fractals"
D. Della-Bosca and **R.P. Taylor**
Published: *The Journal of Nonlinear Dynamics, Psychology, and Life Sciences*, **13** 145-154 (2009)
(INVITED)
221. "Emergence of Patterns from Nature's Chaos, Through Parallels Between Edward Lorenz and Yves Klein"
R.P. Taylor
Published: Invited Chapter, book commemorating the life of Edward Lorenz, published by *The Journal of Nonlinear Dynamics, Psychology, and Life Sciences*, **13** 341 (2009) (INVITED).
222. "Reflecting the Impossible"
R.P. Taylor
Published: *Nature*, **460**, 462 (2009) (INVITED).

223. "Fractals in Nano-devices"
R.P. Taylor,
Published: The Nano-Experts Series, *The One-Line Journal of Nanotechnology* (www.azonano.com), <http://www.azonano.com/thought%20leaders.asp>
224. "Investigation of Electron Wave Hybridization in GaInAs/InP Arrays"
M.S. Fairbanks, T.P. Martin, B.C. Scannell, C.A. Marlow, H. Linke and **R.P. Taylor**
Published: *Applied Physics Letters* **95** 182105-1-3 (2009) (REFEREED)
225. "Fractal Electronic Circuits Assembled From Nanoclusters"
M.S. Fairbanks, D. McCarthy, S.A. Brown, **R.P. Taylor**
Proceedings of "4th International Conference on Advanced Materials and Nanotechnology"
Dunedin, New Zealand, February, 2009.
Published: *AIP Conference Proceedings Series*, **1151** 63-66 (2009) (REFEREED)
226. "Measuring Hybridization in GaInAs/InP Electron Billiard Arrays"
M.S. Fairbanks, T.P. Martin, B.C. Scannell, C.A. Marlow, H. Linke and **R.P. Taylor**
Published: *Physica E* **42** 1205-1207 (2010), conference proceedings of EP2DS (REFEREED)
227. "An Optical Demonstration of Fractal Geometry"
B.C. Scannell, B. Van Dusen and **R.P. Taylor**
Published: *The Bridges Proceedings*, Tarquin books, 349-350 (2010) (REFEREED)
228. "Field Orientation Dependence of the Zeeman Spin Splitting in InGaAs Quantum Point Contacts"
T.P. Martin, A. Szorkovsky, C.A. Marlow, **R.P. Taylor**, A.P. Micolich, A.R. Hamilton
Published: *Physical Review B*, Rapid Communication, **81** 041303 (R) (2010) (REFEREED)
229. "Across The Cultural Divide"
R.P. Taylor
Review of the book "The Neural Imagination" by Irving Massey,
Published: *Nature*, **463** 431 (2010) (INVITED)
230. "Chaos, Fractals, Nature"
R.P. Taylor, book (electronic edition)
Published: *Fractals Research* (2010) ISBN: 0-9791874-1-9
231. "Multifractal and Statistical Comparison of Painting Techniques of Adults and Children"
M. Fairbanks, J. Mureika and **R.P. Taylor**
Published: *SPIE Proceedings of Electronic Imaging*, special edition on
"Computer Vision and Image Analysis of Art" Ed. D.G. Stork, J. Coddington
and A. Bentkowska-Kafel, **7531** 7531001-6 (DOI: 10.1117/12.840411) (2010) (REFEREED)
232. "Simulations of fractal electronic circuits"
R. Montgomery, M.S. Fairbanks, S.A. Brown, **R.P. Taylor**
Published: Proceeding of the APS Meeting (2010)
233. "The Crop Circle Evolves"
R.P. Taylor
Published: *Nature* **465** 693 (2010). (COMMISSIONED INVITATION)
234. "The Curse of Jackson Pollock"
R.P. Taylor
Finalist of the Northwest Perspectives essay contest
Published: *Oregon Quarterly Magazine*, Winter Edition (2011) (INVITED)
235. "Artistic Forms and Complexity"
J.P. Boon, J. Casti and **R.P. Taylor**
Published: *The Journal of Nonlinear Dynamics, Psychology, and Life Sciences* **15**, 265-283 (2011) (REFEREED)

236. “Physics – Principles and Applications”
 D.C. Giancoli, Edited by **R.P. Taylor** and S. Macklavzina
 Book published by Pearson/Prentice Hall (2010). ISBN 0558554555 (INVITED)
237. “Mood Swings”
R.P. Taylor
 Published: *Science* **329** 1149 (2010) (INVITED AND COMMISSIONED)
238. “The Art and Science of Foam Bubbles”
R.P. Taylor
 Published: *The Journal of Nonlinear Dynamics, Psychology, and Life Sciences* **15** 129-135 (2011)
 (INVITED)
239. “Scaling Analysis of Spatial and Temporal Patterns: From the Human Eye to the Foraging Albatross”
 M.S. Fairbanks and **R.P. Taylor**
 Published: Chapter to the book “Non-linear Dynamical Analysis for the Behavioral Sciences Using Real Data”, published by CRC Press, Taylor and Francis Group (Boca Raton)
 ISBN 978-1-4398-1997-5 (2011) (INVITED)
240. “Artificial Vision: Vision of Beauty”
R.P. Taylor, review article
 Published: *Physics World* 22-27 May 2011 (INVITED AND COMMISSIONED)
241. “Fractal Architecture Across Cultures and Continents”
R.P. Taylor
 Published: *Engawa Architecture Magazine* **5** 1-4 (2011) (INVITED).
242. “Benoit Mandelbrot’s Fractal World”
R.P. Taylor
 Published: *Physics Today*, 63-64, May 2011 (INVITED AND COMMISSIONED)
243. “Light, Color and Vision (edition 2011)”
R.P. Taylor,
 Published: Textbook, Pearson/Prentice Hall (ISBN 0558998755) (2011)
244. “NSF Program Benefits Schools in Need”
 R. Parthasarathy, **R.P. Taylor** et al
 Published: *Science*, commentary, **322** 173-174 (2011).
245. “Look What Cropped Up”
R.P. Taylor
 Published: *Tilth*, **22** 16 (2011) (COMMISSIONED)
246. “Perceptual and Physiological Responses to Jackson Pollock’s Fractals”
R.P. Taylor, B. Spehar, P. van Donkelaar, C. Hagerhall,
 Published: Chapter in the book “Art and the Brain” published in the series Frontiers in Human Neuroscience, **5** 1-13 (2011) (INVITED, REFEREED).
247. “Physics, Perception and Physiology of Jackson Pollock’s Fractals”
R.P. Taylor
 Published: *i-Perception*, **2** (4) 284 ISSN: 20141-6695 (2011) (REFEREED).
248. “Beauty and the Beholder: The Role of Structure in Visual Preference”
 B. Spehar and **R.P. Taylor**
 Published: *Perception*, **40** 122-123 (2011) (REFEREED).
249. “Social Mood, Deep History and the Elliot Waves Principle”
 J. Casti, J. Meyer and **R.P. Taylor**
 Published: Fractals Research, 1-16, ISBN 978-0-9791874-5-2 (2011)

250. "The Unreasonable Beauty of Mathematics"
George Musser
I contributed photographic images for this on-line article for *Scientific American* July 2011
(<http://www.scientificamerican.com/article.cfm?id=livio-the-unreasonable-beauty-of-mathematics>)
251. "Coming Soon to a Field Near You: The Physics of Crop Circle Formation"
R.P. Taylor
Published: *Physics World* **24** 26-31 August 2011 (INVITED AND COMMISSIONED)
252. "Fractal Electronic Devices: Simulation and Implementation"
M.S. Fairbanks, D. McCarthy, S. Scott, S.A. Brown, **R.P. Taylor**
Published: *Nanotechnology* **22** 365304 (2011) (REFEREED)
253. "The Transience of Virtual Fractals"
R.P. Taylor
Published: *The Journal of Nonlinear Dynamics, Psychology, and Life Sciences* **16**, 91-96 (2012) (INVITED)
254. "Light, Color and Vision (edition 2012)"
R.P. Taylor,
Published: Textbook, Pearson/Prentice Hall (ISBN 1256090492) (2012)
255. "The Abstract Expressionists and Les Automatistes: A Shared Multi-fractal Depth?"
J. Mureika and **R.P. Taylor**
Published: Special Issue on "Image Processing for Art Investigation",
Signal Processing **93** 573-578 (2013) (REFEREED)
256. "Fractal Expressionism: the Art and Science Behind Jackson Pollock's Paintings"
R.P. Taylor, book
To be published by *World Scientific* (INVITED AND COMMISSIONED)
257. "Probing the Sensitivity of Electron Wave Interference to Scattering-Induced Disorder in Solid-state Devices"
B.C. Scannell, I. Pilgrim, A.M. See, R.D. Montgomery, P.K. Morse, M.S. Fairbanks,
C.A. Marlow, H. Linke, I. Farrer, D.A. Ritchie, A.R. Hamilton, A.P. Micolich, L. Eaves
and **R.P. Taylor**
Published: *Physical Review B* **85** 195319 (2012) (REFEREED)
258. "Impact of Small-angle Scattering on Ballistic Transport in Quantum Dots"
Andrew M. See, Ian Pilgrim, Billy C. Scannell, Rick Montgomery, Oleh Klochan
Martin Aagesen, Poul-Erik Lindelof, Ian Farrer, David A. Ritchie, **R. P. Taylor**,
Alex R. Hamilton and Adam P. Micolich
Published: *Physical Review Letters* **108** 196807 (2012) (REFEREED)
259. "Is it the Boundaries or Disorder that Dominates Electron Dynamics in Semiconductor billiards?"
A.P. Micolich, A.M. See, B.C. Scannell, C.A. Marlow, T.P. Martin, I. Pilgrim, A.R. Hamilton,
H. Linke, and **R.P. Taylor**
Published: Invited review article, *Fortschr. Phys.* **61**, 332, (2013) (REFEREED).
260. "The Influence of Small Angle Scattering on Ballistic Transport in Quantum dots"
A.M. See, I. Pilgrim, B.C. Scannell, R. Montgomery, O. Klochan
M. Aagesen, P.-E. Lindelof, I. Farrer, D.A. Ritchie, **R. P. Taylor**, A.R. Hamilton and A.P. Micolich
Published: the proceedings of the International Conference on
Semiconductor Physics (2013) (REFEREED).
261. "A Fractal Comparison of Escher and Koch Tesselations"
B. van Dusen, B.C. Scannell and **R.P. Taylor**
Published: Fractals Research, 1-16, ISBN 978-0-9791874-6-9 (2012)

262. "Human EEG Responses to Exact and Statistical Fractal Patterns"
 C. Hagerhall, T. Laike, **R.P. Taylor**, M. Kuller, E. Marcheschi, C. Bodyton
 Published: IAPS (2012) (REFEREED).
263. "The Art and Science of Hyperbolic Tesselations"
 B. van Dusen and **R.P. Taylor**
 Published: *The Journal of Nonlinear Dynamics, Psychology, and Life Sciences*, **17** 317-323
 INVITED (2013).
264. "Making Quantum Devices with Electrical Properties that are Robust to Thermal Cycling Using AlGaGaAs HIGFET Structures"
 A.M. See, I. Pilgrim, B.C. Scannell, R. Montgomery, O. Klochan
 M. Agesen, P-E. Lindelof, I. Farrer, D.A. Ritchie, **R. P. Taylor**, A.R. Hamilton and A.P. Micolich
 Published in the Proceeding of the APS Meeting **1** 20012 (2013)
265. "Stimulating Creativity by Integrating Research and Teaching Across the Academic Disciplines"
R.P. Taylor
 Published in the Proceeding of the APS Meeting (2013)
266. "Neural Stimulation via Fractal Electrodes"
 R.D. Montgomery, W. Watterson, I. Pilgrim, K. Fairley, D.W. Johnson, H. Linke, **R.P. Taylor**
 Published in the Proceeding of the APS Meeting, **1** 31012 (2013)
267. "Investigating the Thermal Stability of Electron Transport Properties in Modulation-doped Semiconductor Heterostructure Systems"
 I. Pilgrim, B.C. Scannell, A.M. See, R.D. Montgomery, P.K. Morse, M.S. Fairbanks, C.A. Marlow
 H. Linke, I. Farrer, D.A. Ritchie, A.R. Hamilton, A.P. Micoloch, L. Eaves and **R.P. Taylor**
 Published in the Proceeding of the APS Meeting, **1** 23008 (2013)
268. "Fractals in Art and Nature: Why Do We Like Them?"
 B. Spehar and **R.P. Taylor**
 Published: SPIE, special edition on Human Vision and Electronic Imaging, **8651** 865118 (2013)
 doi:10.1117/12.2012076. (REFEREED).
269. "A Fascination with Fractals"
R.P. Taylor
 Published: Invited feature article, *Physics World*, 37-41, September 2013. (INVITED)
270. "The Fractalist"
R.P. Taylor
 Published: Invited Review, *Physics Today*, 2013. (INVITED)
271. "General Physics Study Guide"
R.P. Taylor
 Published: *Prentice Hall*, 2013.
272. "Fractal Electrode Enhanced Organic Photovoltaic Cells"
 R.L. Chamousis, L. Chang, W. J. Watterson, R. Montgomery, **R.P. Taylor**, A.J. Moule,
 S.E. Shaheen, B. Ilan, J. van de Lagemaat and F.E. Osterloh
 Published: *Papers of the American Chemical Society*, **245** (2013). (REFEREED).
273. "The Fractal Clock"
 R. Downing and **R.P. Taylor**
 Published: *The Journal of Nonlinear Dynamics, Psychology, and Life Sciences*, **18** 109 (2014)
 (INVITED)
274. "Creative Confluence"
 M.M.M. Lowcre et al, "Organic Creativity and the Physics Within"
 Published: John Benjamins Publishing, Amsterdam and Philadelphia, Ed. J.F. Hoorn (2014).

- (<http://benjamins.com/#catalog/books/z.179/main>). (REFEREED).
275. “Fractal Images Induce Fractal Pupil Dilations”
 P. Moon, J. Murday, S. Raynor, J. Schirillo, M.S. Fairbanks and **R.P. Taylor**
 Published: *The International Journal of Psychophysiology*, **93**, 316 (2014) (REFEREED).
277. “Effect of Fractal Silver Electrodes on Charge Collection and Light Distribution in Semiconducting Organic Polymer Films”
 R.L. Chamousis, L. Chang, W. J. Watterson, R. Montgomery, **R.P. Taylor**, A.J. Moule, S.E. Shaheen, B. Ilan, J. van de Lagemaat and F.E. Osterloh
 Published: *The Journal of Materials Chemistry A*, **2** 16608 (2014) (REFEREED).
278. “The effects of visual scene complexity on human visual cortex”
 A.J. Bies, J. Wekselblatt, C. Boydston, **R.P. Taylor** and M.E. Sereno
 Published: *Society for Neuroscience*, 2015 [Abstract]
279. “An Edgy Image Statistic: Semi-Automated Edge Extraction and Fractal Box-Counting Algorithm Allows for Quantification of Edge Dimension In the Natural Scenes”
 A.J. Bies, R.P. Taylor, and M.E. Sereno
 Published: *Journal of Vision*, **15** (12), 769-769 (2015) [Abstract]
280. “Human Physiological Benefits of Viewing Nature: EEG Response to Exact and Statistical Fractal Patterns”
 C.M. Hagerhall, T. Laike, M. Küller, E. Marcheschi, C. Boydston and **R.P. Taylor**
 Published: *The Journal of Nonlinear Dynamics, Psychology, and Life Sciences*, **19** 1-12 (2015) (REFEREED).
281. “Fractal Interconnects for Neuroelectronic Interfaces and Implants using the Same”
R.P. Taylor and S.A. Brown,
 U.S. Patent no. 12/931978, issued July 2015
282. “Temporal Structure of Human Gaze Dynamics is Invariant During Free Viewing”
 C.A. Marlow, I.V. Viskontas, A. Matlin, C. Boydston, A. Boxer and **R.P. Taylor**
 Published: *PLoS ONE* **10** (9), e0139379 (2015). doi:10.1371/journal.pone.0139379 (REFEREED).
283. “Beauty and the Beholder: The Role of Visual Sensitivity in Visual Preference”
 B. Spehar, S. Wong, S. van de Klundert, J. Lui, C.W.G. Clifford and **R.P. Taylor**
 Published: *Frontiers in Human Neuroscience*, **9** (514) (2015) doi:10.3389/fnhum.2015.00514 (REFEREED).
284. “General Physics Study Guide (Edition 2)”
R.P. Taylor
 Published: *Prentice Hall*, 2015.
285. “A Complex Story: Universal Preference vs. Individual Differences Shaping Aesthetic Response to Fractals Patterns?”
 N. Street, A. Forsythe, R.G. Reilly, **R.P. Taylor**, C. Boydston and M.S. Helmy,
 Published: *Frontiers in Human Neuroscience*, **10** (213) (2016). doi:10.3389/fnhum.2016.00213 (REFEREED).
286. “The Aesthetic Response to Exact Fractals Driven by Physical Complexity”
 A. Bies, D.R. Blanc-Golhammer, C.R. Boydston, **R.P. Taylor** and M.E. Sereno
 Published: *Frontiers in Human Neuroscience*, **10** (201) (2016) doi:10.3389/fnhum.2016.00210 (REFEREED).
287. “Taxonomy of Variations in Aesthetic Response to Fractal Patterns”
 B Spehar, N. Walker and **R.P. Taylor**
 Published: *Frontiers in Human Neuroscience*, **10** (350) (2016) doi:10.3389/fnhum.2016.00350 (REFEREED).

288. "General Physics Study Guide (Edition 3)"
R.P. Taylor
Published: *Prentice Hall*, 2016.
289. "Spatial Localization Accuracy Varies with the Fractal Dimension of the Environment",
A. W. Juliani, A.J. Bies, C. Boydston, **R.P. Taylor**, M.E. Sereno
Published: *Vision Sciences Society Annual Meeting*, 2016 [Abstract]
290. "Percepts from Noise Patterns: The Role of Fractal Dimension in Object Pareidolia"
A.J. Bies, A. Kikumoto, C. Boydston, A. Greenfield, K.A. Chauvin, **R.P. Taylor** and M.E. Sereno
Published: *Vision Sciences Society Annual Meeting*, 2016 [Abstract] (2016)
(REFEREED).
291. "Navigation Performance in Virtual Environments Varies with Fractal Dimension of Landscape"
A. W. Juliani, A.J. Bies, C.R. Boydston, **R.P. Taylor**, and M.E. Sereno
Published: *Journal of Environmental Psychology*, **47**, 155-165 (2016) (doi: 10.1016/j.jenvp.2016.05.011)
(REFEREED).
292. "Relationship Between Fractal Dimension and Scaling Decay Rate in Computer-generated Fractals"
A.J. Bies, C.R. Boydston, **R.P. Taylor**, and M.E. Sereno
Published: *Symmetry* **8**, (7) 66 (2016). doi:10.3390/sym8070066
(REFEREED).
293. "Fractal Fluency: An Intimate Relationship Between the Brain and Processing of Fractal Stimuli"
R.P. Taylor and B. Spehar
Published: Chapter in the book *The Fractal Geometry of the Brain*, Springer (2016)
ISBN: 978-1-4939-3995-4 (INVITED)
294. "Fractal Interconnects as a Generic Interface to Neurons"
W.J. Watterson, S. Moslehi, J.H. Smith, R.D. Montgomery and **R.P. Taylor**,
Published: Chapter in the book *The Fractal Geometry of the Brain*, Springer (2016)
ISBN: 978-1-4939-3995-4 (INVITED)
295. "Seeing Shapes in Seemingly Random Patterns: Fractal Analysis of Rorschach Ink Blots"
R.P. Taylor, T.P. Martin, R.D. Montgomery, J.H. Smith, A.P. Micolich, C. Boydston, B.C. Scannell,
M.S. Fairbanks and B. Spehar
Published: *PlosOne* **12**(2): e0171289 (Feb 14th 2017) doi:10.1371/journal.pone.0171289
(REFEREED).
296. "Fractal Patterns in Nature and Art are Aesthetically Pleasing and Stress-Reducing"
R.P. Taylor
Published: *Smithsonian*, March 31st 2017 (INVITED).
297. "Fractal Electrodes as a Generic Interface for Stimulating Neurons"
W.J. Watterson, R.D. Montgomery and **R.P. Taylor**
Published: *Nature: Scientific Reports* **7**, 6717 (2017) doi: 10.1038/s41598-017-06762-3
(REFEREED).
298. "Biological Mechanisms and Neurophysiological Responses to Sensory Impact from Nature"
C. Hagerhall, **R.P. Taylor**, G. Cerwen, G. Watts, M. van den Bosch, D. Press and S. Minta
Published: Chapter to the book *Oxford Textbook of Nature and Public Health*, Oxford University Press
ISBN: 9780198725916, (2018) (REFEREED).
299. "General Physics Study Guide (Edition 4)"
R.P. Taylor
Published: *Prentice Hall*, 2017.
300. "The Implications of Fractal Fluency for Bioinspired Architecture"
R.P. Taylor, A.W. Juliani, A.J. Bies, B. Spehar, and M.E. Sereno,
Published: *Journal of Biourbanism*, **6** 23-40 (2018) (INVITED).

301. “Modelling the Improved Visual Acuity Using Photodiode Based Retinal Implants Featuring Fractal Electrodes”
W.J. Watterson, R.D. Montgomery and R.P. Taylor
Published: *Frontiers in Neuroscience*, **12** (277), 1-14, doi: 10.3389/fnins.2018.00277 (2018) (REFEREED).
302. “An Eye for Nature”
R.P. Taylor
Published: *The Journal of Nonlinear Dynamics, Psychology, and Life Sciences*, **22**, 283-287 (2018) (INVITED).
303. “The Artist Who Walked on the Moon”
R.P. Taylor
Published: *Nature*, **558**, 518 (2018) (INVITED).
<https://www.nature.com/articles/d41586-018-05401-9>
304. “Fractal Analysis of Time Series Data Sets: Methods and Challenges”
I. Pilgrim and R.P. Taylor
Published: Chapter to the book *Fractal Analysis* (IntechOpen) 2018. ISBN 978-953-51-6762-4. (INVITED).
305. “A Factor Analytic Approach reveals variability and Consistency in Perceived Complexity Ratings of Landscape Photographs”
A. Bies, W. Tate, R.P. Taylor and M Sereno
Published: *Journal of Vision* **18** 386-385 (2018).
306. “Perceived Complexity and Aesthetic Responses to Landscape Photographs”
W. Tate, R.P. Taylor, M Sereno and A. Bies
Published: *Journal of Vision* **18** 385 (2018).
307. “Fractals in Architecture: The Visual Interest and Mood Response to Projected Fractal Light Patterns in Interior Spaces”
B. Abboushi, I. Elzeyadi, R.P. Taylor and M. Sereno
Published: *The Journal of Environmental Psychology*, **61** 57-70 (2018)
308. “Perceptual Responses to Fractal Light Patterns”
B. Abboushi, I. Elzeyadi, R.P. Taylor and M. Sereno
Published in: *The Conference Proceedings of the Annual Conference of the Illuminating Engineering Society* (2018)
309. “Nature’s Fractal Similarities: Integrating Art and Science”
R.P. Taylor
Published: *The Journal of Nonlinear Dynamics, Psychology, and Life Sciences*, **23**, 173 (2019)
310. “A Fractal Epistemology for Scientific Psychology”
R.P. Taylor
Published: Foreword to the book *A Fractal Epistemology for Scientific Psychology*” Cambridge Scholars ISBN: 1527540235 (2019)
311. “Using Science to Generate and Tune Fractal Aesthetics”
B. Van Dusen, B. Spehar, M. Sereno and R.P. Taylor
Published: Chapter to the book *Armchair and Paintbrush: An Eternal Philosophico-Artistic Tango* (Springer) 2019 (INVITED)
312. “Francis O’Connor and Jackson Pollock’s Fractals”
R.P. Taylor
Published: *Fractals Research*, ISBN: 0-9791874-7-8 (2019) (INVITED)
313. “Investigating Visual Interest and Mood Response to Light Patterns in Architectural Renderings”

B. Abboushi, I. Elzeyadi, **R.P. Taylor** and M. Sereno
Published: *Sustainable Urban Environments: Research, Design and Planning for the Next 50 Years* (2019)

314. "Relaxing Floors: Fractal Fluency for the Built Environment"
J.H. Smith, C. Rowland, S. Moslehi, **R.P. Taylor**, A. Lesjak, M. Lesjak, S. Stadlober, L. Lee, J. Dettmar, M. Page and J. Himes
Published: *The Journal of Nonlinear Dynamics, Psychology, and Life Sciences*, **24** 127-141 (2020)
315. "Fractal Solar Cells: A Marriage between Aesthetic and Electrical Performance"
E. Roe, A.J. Bies, W.J. Watterson, R.D. Montgomery, C.R. Boydston, M.E. Sereno, **R.P. Taylor**
Published: *PLOS ONE* 1-13 (<https://doi.org/10.1371/journal.pone.0229945>) (2020)
316. "The Role of an Aluminum Underlayer on the Biocompatibility and Mechanical Integrity of Vertically Aligned Carbon Nanotubes for Interfacing with Retinal Neurons"
W.J. Watterson, S. Moslehi, C. Rowland, K.M. Zappitelli, J.H. Smith, D. Miller, J.E. Chouinard, S.L. Golledge, **R.P. Taylor**, M. Perez, B.A. Aleman.
Published: *Micromachines*, 11-27, **546** (2020). *Special edition of Micro/Nanofabrication for Retinal Implants in Micromachines* (Invited). doi:10.3390/mi11060546.
317. "Machine Learning and Fractal Analysis Process for Classifying Motion"
S. Roach, C. Boydston and **R.P. Taylor**
US Patent filed: April 2020
318. "The Perception of Composite Fractal Environments"
Emily Owen, Kelly Robles, **Richard Taylor** and Margaret E. Sereno
Published: Abstract, *Journal of Vision*, Vision Science Society (2020)
319. "Physical Guidance of *In Vitro* Retinal Neurons Using Zig-zag Surface Patterns"
S. Moslehi, W.J. Watterson, C. Rowland, J.H. Smith, M-T Perez, **R.P. Taylor**
Published: *American Journal of Biomedical Science and Research (AJBSR)*, **11**(4) (2020).
320. "Investigating Visual Comfort, Visual Interest of Sunlight Patterns and View Quality Under Different Window Conditions in an Open Plan Office"
B. Abboushi, I. Elzeyadi, K. Van Den Wymelenberg, **R.P. Taylor**, M. Sereno, G. Jacobsen
Published: *Journal of the Illuminating Engineering Society (LEUKOS)* **17** (4), 321-337 (2020)
DOI: 10.1080/15502724.2020.1785309
321. "A Shared Fractal Aesthetic Across Development"
K. Robles, N. Liaw, **R.P. Taylor**, D. Baldwin, M. Sereno
Published: *Nature: Humanities and Social Science Communications*, (2020)
[7:158 | https://doi.org/10.1057/s41599-020-00648-y](https://doi.org/10.1057/s41599-020-00648-y)
322. "How Neurons Exploit Fractal Geometry to Maximize Physical Connectivity"
J.H. Smith, C. Rowland, B. Harland, S. Moslehi, K. Schobert, R.M. Montgomery, W.J. Watterson, J. Dalrymple-Alford, **R.P. Taylor**
Published in *Nature: Scientific Reports*, **11**, 2332 (2021) <https://doi.org/10.1038/s41598-021-81421-2>
323. "The Potential of Biophilic Fractal Designs to Promote Health and Performance: A Review of Experiments and Applications"
R.P. Taylor
Published: *Journal of Sustainability: Special edition "Architecture and Salutogenesis: Beyond Indoor Environmental Quality"* **13**, 823 (2021) <https://doi.org/10.3390/su13020823>
324. "Investigation of Fractal Carbon Nanotube Networks for Biophilic Neural Sensing Applications"
L.A. Browning, W. Watterson, E. Happe, S. Silva, R. Abril Valenzuela, J. Smith, M.P. Dierkes, **R.P. Taylor**, N.O.V. Plank and C. A. Marlow
Published: *Nanomaterials* **11**, 636 (2021) <https://doi.org/10.3390/nano11030636>
325. "Aesthetics and Psychological Effects of Fractal Based Design"

- K.E. Robles, M. Roberts, C. Viengkham, J.H. Smith, C. Rowland, S. Moslehi, S. Stadlober, A. Lesjak, M. Lesjak, **R.P. Taylor**, B. Spehar and M.E. Sereno
 Published: *Frontiers Environmental Psychology, special edition on Biophilic Design Rationale: Theory, Methods, and Applications*, **12**, 699962 (2021) <https://doi.org/10.3389/fpsyg.2021.699962>
326. “Working with Fractals: A Resource for Practitioners of Biophilic Design”
 R. Tromblin, B. Abboushi, L. Baraldo, B. Borel, B. Browning, J. Heerwagen, G. Nalin, K. Pei, N. Salingaros, C. Stolarski, **R.P.Taylor**, D. Walker and E. Winer
 Published: Report, *Terrapin Bright Green*, New York (2021)
327. “Fractal Fluency in the Built Environment”
 S. Stadlober, A. Lesjak, **R.P. Taylor**, M. Lesjak
 Published: *Fractals Research* (2021), Book ISBN: 978-0-9791874-8-3 0-9791874-8-6
328. “What Happens in Your Brain When You Walk Down the Street? Implications of Architectural Proportions, Biophilia, and Fractal Geometry for Urban Science”
 A.A. Briemann, N.H Buras, N.A. Salingaros, **R.P. Taylor**
 Published: *Urban Science* **6** [10.3390/urbansci6010003](https://doi.org/10.3390/urbansci6010003) (2022).
329. “Controlled Assembly of Retinal Cells on Fractal and Euclidean Electrodes”
 S. Moslehi, C. Rowland, J.H. Smith, W.J. Watterson, D. Miller, C. Niell, B. Aleman, M. Perez, **R.P. Taylor**
 To be published in *PLOS One*.
330. “Motherwell’s Journey”
R.P. Taylor
 To be published in *Oregon Quarterly*.
331. “Investigating Fractal Analysis as a Diagnostic Tool that Probes the Connectivity of Hippocampal Neurons”
 C. Rowland, J.H. Smith, B. Harland, J. Dalrymple-Alford, **R.P. Taylor**
 Accepted for publication in *Frontiers in Physiology*.
332. “Fractal Fluency: Processing of Fractal Stimuli Across Sight, Sound and Touch”
R.P. Taylor and B. Spehar
 Invited book chapter for *The Fractal Geometry of the Brain, Edition II* Springer (2023).
333. “Fractal Herding as a Biocompatible Approach to Stimulating and Sensing Retinal Signals”
 S. Moslehi, C. Rowland, J.H. Smith, W.J. Watterson, R.D. Montgomery, C.A. Marlow and **R.P. Taylor**.
 Invited book chapter for *The Fractal Geometry of the Brain, Edition II* Springer (2023).
334. “Fractal Resonance: Maximizing Connectivity Between Implant Electrodes and Neurons”
 C. Rowland, S. Moslehi, J.H. Smith, W.J. Watterson, R.D. Montgomery and **R.P. Taylor**,
 Invited book chapter for *The Fractal Geometry of the Brain, Edition II* Springer (2023).
335. “Fractal Shifts and Aesthetic Rifts: Climate Change and Emotional Well-being”
 R. York and **R.P. Taylor**
 Submitted to *Climatic Change*
336. “Fractal Analysis of Orthodox Iconography using the Kolmogorov Complexity”
 D. Peptenatu, I. Andronache, H. Ahammer, **R.P. Taylor**, B. Ciobanu, M. Burcea, C.I. Cirstea, A Lemeni, A. K. Gruia, A. Grecu, M. Marin, and H. F. Jelinek. Submitted to *Scientific Reports*
337. “Comparisons of retinal neuronal and glial cell interactions with fractal and grid-shaped electrodes”
 S. Moslehi, C. Rowland, J.H. Smith, W. Griffiths, W. Watterson, D. Miller, C. Niell, B. Aleman, M. Perez, and **R.P. Taylor**. Draft manuscript written, to be submitted to *Microglia*.
338. “The Sensitivity of Neuron Arbor Geometry to the Fractal Properties of their Dendrites”
 C. Rowland, J.H. Smith, B. Harland, J. Dalrymple-Alford, and **R.P. Taylor**
 Draft manuscript written, to be submitted to *Scientific Reports*.

339. "The Art of Balance: Scaling Analysis of Poured Paintings Generated by Adults and Children"
M.S. Fairbanks, J. Mureika and **R.P. Taylor**,
Manuscript in preparation, to be submitted to *Leonardo*